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PAPER TRADE JOURNAL

VOL. 122 NO. 17 APRIL 25, 1946

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1886 — 1946

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Higher Woodpulp Ceilings Are Made Effective
Crabtree Is Named Howard Smith Chairman
Trees for Tomorrow Distributes Seeds
Carrier Kraft Pulp Rate Increase

Canada's Ceiling Suspension a Newsprint Omen
Waste Dealers Establish a Welfare Fund
March Production at Postwar High Level
Ontario Mills Raise Wages Ten Cents

PIONEERING INSTALLATION of the *NEW* Suction Cylinder Couch Teamed Up With Suction Extractor

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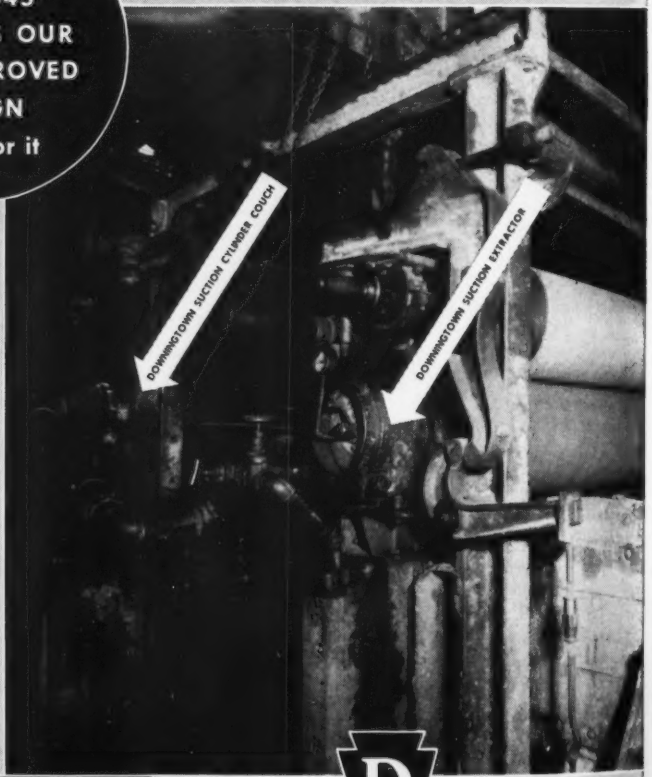

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PAPER TRADE JOURNAL

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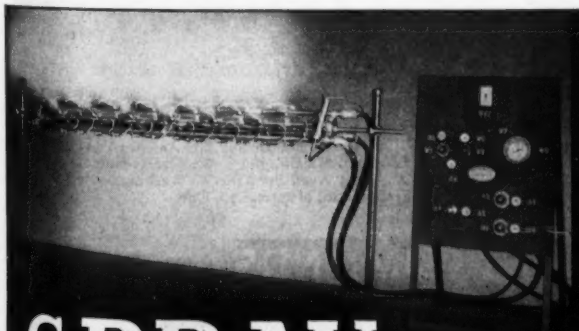

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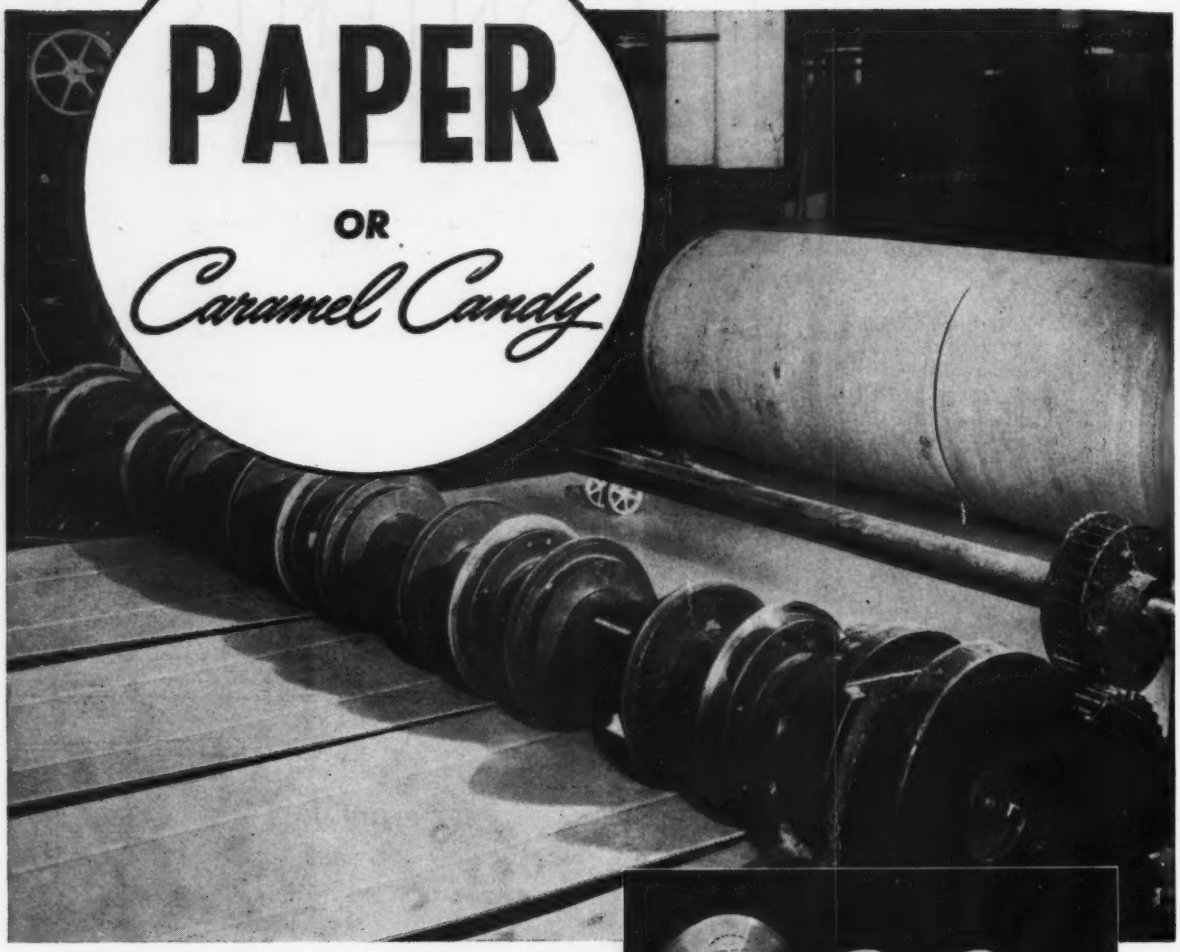

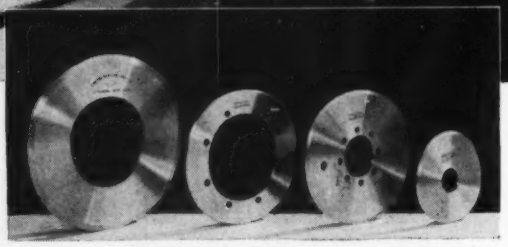

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PAPER TRADE JOURNAL

Vol. 122, No. 17 April 25, 1946

Title Reg. U. S. Pat. Off.

Higher Wood Pulp Ceilings Are Made Effective By OPA

WASHINGTON, D. C.—An increase of approximately 10 percent in producers' ceiling prices for woodpulp, preliminary announcement of which was made April 11 by the Office of Price Administration became effective on April 22, 1946, the Office of Price Administration announced today. Increases ranging from $3 to $9 a ton have been allowed in ceilings for standard grades of woodpulp. At the same time, increases ranging from $4 to $12.50 a ton were granted in the ceilings of special woodpulp grades other than those recently given individual price adjustments. Another change reduces by amounts ranging from $1 to $3 a ton the maximum transportation charges that sellers are required to absorb.

This action, says OPA, is taken for the purpose of stimulating production and helping assure essential buyers of woodpulp their minimum requirements during the coming year.

The ceiling price increases, first since July 1940 for some grades and first since February 1944 for other grades, are discretionary. They are not mandatory under the Price Control Act because, while individual companies are showing earnings below pre-war levels, the industry as a whole is above its 1936-39 earnings.

The Civilian Production Administration recommended that OPA take whatever action was found necessary to assure availability of necessary woodpulp supplies. This action represents OPA's answer to that recommendation, following extensive consultations with producers, consumers and importers.

As the action provides no automatic pass-on, the price increases will be absorbed by the paper milis buying woodpulp for conversion into various paper and paper products. OPA pointed out that where a paper mill cannot absorb the increase, it may apply for individual price adjustment to relieve its position.

One of the effects of the action, OPA pointed out, will be a reduction in the total amount of subsidies being paid to domestic producers of market woodpulp. Subsidies, which were inaugurated in April 1943, will still be required for high cost marginal mills even with today's price increases.

Of total woodpulp supplies consumed in the United States, only 20 percent is affected by price ceiling changes, as 80 percent is produced by integrated companies who use their own woodpulp in paper manufacturing. Of the 20 percent affected, about one-third is produced in the United States, the other two-thirds being imported from Canada, Newfoundland and northern Europe.

The new ceilings for standard grades of woodpulp range from $58 to $94 a ton. Standard grades account for approximately 80 percent of total woodpulp sold on the open market and affected by price changes. The special grades given increases, whose new ceilings range from $82 to $145 a ton, account for only three percent of total market sales.

Somewhat larger increases than those allowed were requested by the Woodpulp Industry Advisory Committee as well as by importers of European woodpulp. The larger increases requested are not warranted, OPA said, and therefore the applications for them were denied.

HAROLD CRABTREE

Who has retired as president of the Howard Smith Paper Company to become chairman of the Board.

$12 Million Kraft Mill Projected For Florida

PENSACOLA, Fla., April 16—Plans for constructing a $12,000,000 pulp and paper mil in Northwest Florida, about eight miles southwest of Atmore, Ala., have been disclosed by J. H. Allen, president of the newly formed Alabama Pulp & Paper Company. Allen said his firm owned more than 800,000 acres of pine timber in South Alabama and Northwest Florida, which would be used to supply the proposed new plant and the existing pulp and paper plant at nearby Cantonment, operated by an affiliated company, Florida Pulp & Paper Company.

Allen said his company many years ago had instituted a reforestation program which will guarantee operation of the two plants in perpetuity.

"We have some new associates who will join us later, if all arrangements work out as planned," he said.

An estimated 2,500 workers from Florida and Alabama will find employment in the new plant and in the woods cutting timber, Allen said, and estimated the annual payroll will run upwards from $4,000,000.

The new plant will manufacture an all-purpose kraft paper.

Harold Crabtree Resigns as Howard Smith President

MONTREAL—Harold Crabtree, C. B. E., who has been president of Howard Smith Paper Mills, Limited, since 1930, has resigned that position, and becomes chairman of the Board. He is succeeded by E. Howard Smith, who for the past 13 years has been vice-president in charge of sales. E. Keith Robinson, long vice-president in charge of operations, has been appointed executive vice-president.

Long conspicuous for his pioneer work in the paper industry, Mr. Crabtree has been such an indefatigable worker that it is locally predicted that in his new role as Chairman of the Board of the Howard Smith concern he will for a long time be picking out new jobs and helping to turn out new products.

Glue Shortage Closes Plant

GREEN BAY, Wis.—Tape, Inc., has been forced to close because it has not been able to procure glue due to the small kill of meat animals, according to Richard Evans, superintendent. The company manufactures gummed paper tape.

Stationers Groups Hold Area Convention

CHICAGO—The National Stationers Association and the Illinois Booksellers and Stationers Association held a combined meeting of State and district groups at the Congress Hotel last week in Chicago. The National Stationers Association's meetings were presided over by W. M. Weck, District Governor. Appearing on the program were Walter Lennartson, Office Appliances, Chicago; J. E. Conlon, Manager of Rockwell Barnes Company who spoke on stationers paper problems in 1946; Edward Little, Wabash Filing Supplies, Inc., and G. C. Holt, general sales manager of the W. A. Sheaffer Pen Company.

P. G. Picknell, president of the Illinois organization, presided at sessions of that group with the speakers including Harry Horder, president of Horders, Inc., W. J. Brons, Chief Editorial Writer of the Chicago Journal of Commerce and J. T. Meek, executive secretary of the Illinois Federation of Retail Associations. Mr. Brons warned his audience that the Government must remove the fundamental causes of currency debasement, must balance the Federal budget and stop deficit financing with its fanatical desire for easy money. He asked whether or not it was politically possible to return to political sanity in face of a desire for more spending than income or to go on spending and pay out of current taxation and do nothing about the present national debt and thus make profitable operations more difficult. The speaker warned that it would be hard to get the public to take the most needed step—to cut spending to the bone and continue taxes at a high level to both service the debt and retire portions of it periodically.

Estimate March Production At Postwar High Level

WASHINGTON, D. C.—The manufacture of pulp, paper, and paperboard reached new postwar high levels in March 1946, according to a preliminary report by the Bureau of the Census. Paper and board production, at 1,639,000 tons, exceeded any previous monthly record since 1942.

Consumption of fibrous materials in pulp, paper and board manufacture also reached record-breaking postwar levels. Waste paper collections continued to match needs, reflecting the persisting vigor of public and industry salvage campaigns.

The production of wood pulp in March reached 921,000 tons, 19 percent more than was produced in February. Although general in all grades, the increase was greatest in unbleached sulphate wood pulp, which indicates improvement in pulpwood production in the South. Although slightly lower, inventory reserves still appear sufficient on an industry basis to tide consumers over until pulp shipments from Sweden can be resumed from harbors now icebound.

The usual monthly survey of the pulp and paper industry will be released later. This preliminary report is estimated to give 100 percent coverage of the industry and is based upon mill returns covering at least 80 percent of total operations.

Trees for Tomorrow Starts Seedling Distribution

WISCONSIN RAPIDS — The annual Trees for Tomorrow, Inc., reforestation program was to get underway this week, when 800,0000 seedlings were to be lifted from beds at the Griffith State Nursery and prepared for distribution in the Wisconsin River Valley from Wood to Vilas counties.

Through its "two for one' reforestation program, Trees for Tomorrow annually offered two freed seedlings for each tree cut since 1942. The program was started to help restock forest lands and farmers' woodlots which played a vital role in supplying timber products during the war years. The trees are bought by the reforestation organization from the state conservation department, and distribution sites are set up in each county. Member mills of Trees for Tomorrow also are planting more than one million trees in their industrial forests. This phase is limited only by the number of seedlings available this year. Forests planted by high schools will account for at least 156,000 trees.

Scott Paper Company Wins Howard G. Ford Award

CHESTER, Pa.—The Howard G. Ford Award was presented by the Sales Managers' Association of Philadelphia to Scott Paper Company at the association's thirty-fifth anniversary dinner last week. Vice-President Francis W. Plowman accepted the award for the company.

This award was conceived in 1935 to further the science of distribution. It is presented annually "to that company in the United States which, during the year, has made the most outstanding contribution to improvement in distribution, with particular emphasis on outstanding achievement in sales management."

Hollingsworth & Whitney Appoints Nivison

BOSTON, Mass.—Robert Nivison, Jr., has been appointed administrative assistant to the vice president and manager of mills at Waterville, Me., of the Hollingsworth & Whitney Company. Mr. Nivison, for a number of years prior to his association with Hollingsworth & Whitney Company, has been an engineer and sales representative for the Improved Paper Machinery Corporation, with headquarters in Appleton, Wis.

United Wallpaper Votes On Plant At Appleton

APPLETON, Wis., April 22, 1946—Stockholders of the United Wallpaper Company will vote April 30 at a special meeting at Wilmington, Del., on whether a $500,000 factory for the manufacture of wallpaper will be erected in Appleton. If the new factory is approved, it will be erected as soon as building materials are available, and will be operated by Kimberly-Clark Corporation, according to an announcement last week by W. H. Yates, president of United Wallpaper.

Negotiations have been going on for some time between the two companies. United Wallpaper now takes the entire production of the Atlas mill of Kimberly-Clark. The site for the new plant has not been selected. It will be equipped with machinery owned by United Wallpaper.

If recommendations of the directors are approved at the special meeting, approximately $3,000,000 will be spent by United Wallpaper to expand and improve its manufacturing plants. About $2,350,000 of this will be spent for enlarging and equipping a factory at Montgomery, Ill. Another $150,000 will go for moving machinery and equipment from mills in Chicago and Hudson Falls, N. Y., to the Illinois plant and $500,000 for the Appleton plant.

Refinancing would be accomplished by the sale of 40,000 shares of cumulative convertible preferred stock, which is expected to net about $1,900,000, and by the private sale of $2,000,000 worth of 3% notes, due in 1966. These new funds are expected to pay for the expansion program, to redeem $700,000 of currently outstanding 6% prior preference stock and to increase working capital by about $160,000.

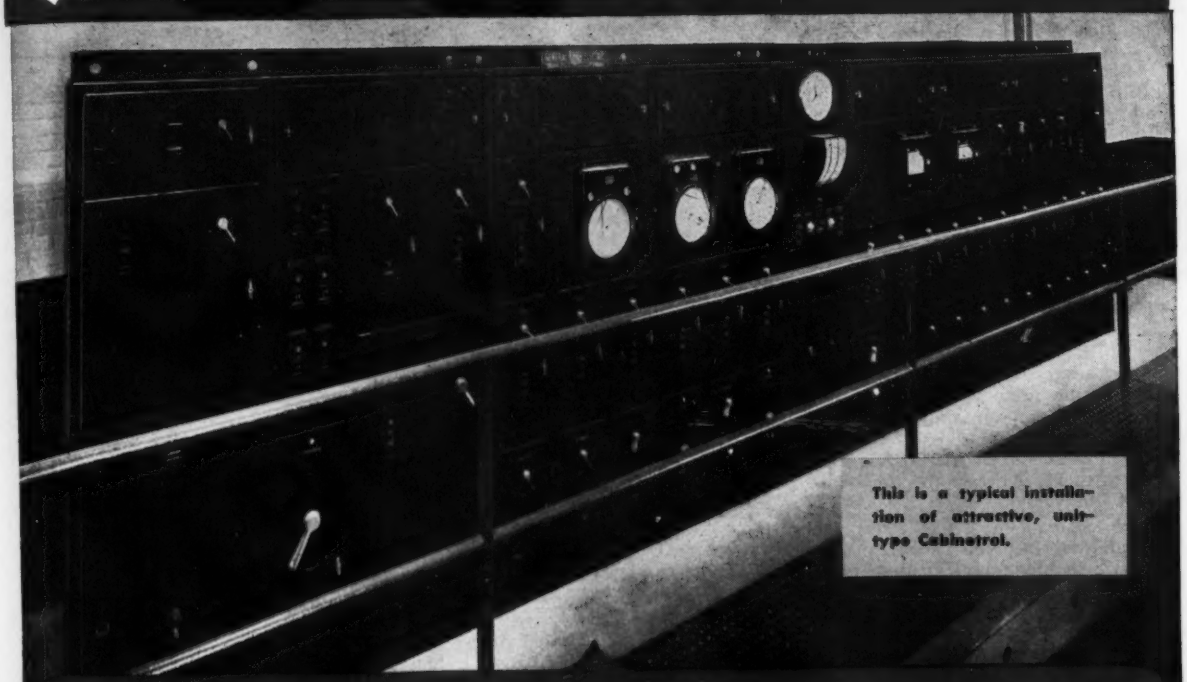
The United Wallpaper Company and its subsidiaries list assets at about $5,130,000 and sales for the fiscal year ended last June 30 were about $16,327,000. Profit before taxes and war contract negotiations for the fiscal year was $2,317,000, and after taxes for the fiscal year was $533,856.

Schweitzer Firm Acquires Former Webster Mill

ORONO, Me.—The former International Paper Company plant on the Webster Orono has been sold to Peter J. Schweitzer and Company of New York by Blinn Page of Skowhegan, who has owned the valuable property in recent years. This plant was built 50 years or more ago and was formerly known as the Webster mill, managed by the late J. Fred Webster of Bangor. It was sold to the International Paper Company.

It is understood that the new owners will manufacture cigarette papers, carbon papers and condenser papers from flax, that the mill will be operated soon and will employ over 100 people.

HODGE-PODGE CONTROL IS EXPENSIVE!



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G-E INDUSTRIAL CONTROL

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Canada's Ceiling Suspension Held Newsprint Omen

MONTREAL — The conviction, long held here, that the days of cheap newsprint are numbered, and that the price, in order to give a fair return in view of increasing costs of production, will eventually move to around the $100 mark per ton, has received a measure of confirmation during the past week with the action of the War Prices and Trade Board in suspending the price ceiling on newsprint in Canada and the Office of Price Administration in the United States reportedly investigating the circumstances surrounding newsprint costs in the light of pleas from producers for another upward revision in the ceiling price from the $67 a ton level in effect since the beginning of this year.

The suspension of the ceiling price here will go into effect on May 1, and the immediate result will be an increase in the price to Canadian consumers by $9 per ton, and the making of this price subject to a pro rata increase in the event of the OPA granting a further price rise for the latter half of this year.

Since September, 1943, when the OPA allowed the New York price to go to $58 per ton, the Canadian price has been frozen at $54 per ton. The new price of $63, as from May 1, will match two increases totalling $9, which were granted in the United States in March, 1945, and January of this year. This will represent a 43 per cent increase in the domestic price since January 1938. At the new figure it is calculated that rather more than $2,000,000 per annum will be added to the newsprint bill of Canadian publishers.

Suspension is "Experimental"

In suspending the price ceiling, Donald Gordon, chairman of the Prices Board, emphasized that the action was experimental, and that it was subject to the understanding that Canadian prices will not rise beyond the "historic differential" margin below U. S. prices which existed before the war between the price for domestic sales and the price for sales to the United States. This differential amounts to $4 per ton, which explains why the new price in Canada will be $63 per ton as against $67 per ton in the United States.

The differential is generally construed to be derived largely from savings in transportation and to the fact that deliveries of newsprint in Canada are paid for in Canadian dollars. However, as the order does not specifically state whether or not the differential allows for the premium on United States funds, there is some speculation as to whether or not it would apply in a general removal of the price ceiling.

Real Price Obscure

As a matter of fact, the real price of newsprint is obscured both in the United States and in Canada by the present exchange situation, since at existing figures it is higher by 10 per cent in the United States in actual Canadian dollars than the quotations indicate and lower by an equivalent amount in Canada. Thus, if the exchange premium were taken into account, the Canadian price, instead of going to $63 on May 1, would rise to $69.70 and still be $4 lower than the United States price in Canadian dollars. Similarly, while a news despatch from Chicago printed in the PAPER TRADE JOURNAL on April 11 indicates that the Advisory Committee of the newsprint industry expects to ask the OPA for a $6 per ton price increase, the view generally held in Montreal among those conversant with inside information is that an increase of $8 per ton is more likely, bringing the price to $75 per ton, which would be equal to $82.50 in Canadian funds, and, allowing both for the premium and for the $4 differential, the Canadian price would be $78.50. However, in the absence of specific information on this point, current forecasts are that, at a price of $75 in the United States, the Canadian price would go to $71, and that the average return to the mills would therefore be $81.81 in Canadian dollars, a rise of 12.8 per cent.

Existing Customers Must Be Protected

A further condition of the suspension of the price ceiling is that the newsprint industry shall continue to offer as a minimum supply to existing customers the quotas which were established for them January 1, 1946.

"Also," said Mr. Gordon, "we regard it as fair that there should be available, to the Canadian market as a whole, an equitable percentage of any increase in supply which may become available from Canadian mills for sale in Canada and the United States. This in effect means that 7 per cent of the total newsprint supply made available to the two countries from Canada should be offered on the Canadian market."

Mr. Gordon also revealed that despite war-time shortages of pulpwood, hydro-electro power and labor, the Canadian industry had been able to increase substantially deliveries to both the domestic and American markets over their pre-war levels. At the present time, Canadian paper mills are running from six to seven per cent ahead of estimated production for the current year. This would mean that the mills are operating at about 92 per cent of capacity which would bring total production this year close to the four million ton mark.

Of this total the United States will absorb 81 per cent and other countries 13 per cent, leaving Canada with an allocation basis of six per cent. The present United States price, which remains under the American Office of Price Administration control, is $67 a ton, U. S. funds. In Canadian funds it would be close to $74 at the present rate of exchange.

Pacific Mills Studies Power Development

VANCOUVER, B. C. — Pacific Mills Limited is considering the development of a power project to cost $2,000,000.

H. G. Acres & Company, Consulting Engineers of Niagara Falls, have already been retained to investigate the proposed Hydro Electric Power Development, which will harness the Nascall River where it flows into Dean Channel.

It is estimated the Nascall River power development will produce approximately 15,000 H.P., delivering about 10,000 K.W. of power to supplement the present hydro electric power supply at the Ocean Falls plant. This new power development will have a head of 175 to 200 feet. The Nascall River water shed has an area of approximately 105 square miles, and its drainage is through Ikezumkah and Nascall Lakes.

The development of this power site and the construction of 30 miles of transmission line demonstrates Pacific Mills Limited policy of firming up power requirements in anticipation of future plant developments.

Pacific Mills is reopening operations at Beaver Cove on northeast Vancouver Island to take out pulp wood for the Ocean Falls pulp and paper mill. The company's operations to log the billion foot stand, begun in 1942, were interrupted when the crews and equipment were moved to the Queen Charlottes to log airplane spruce.

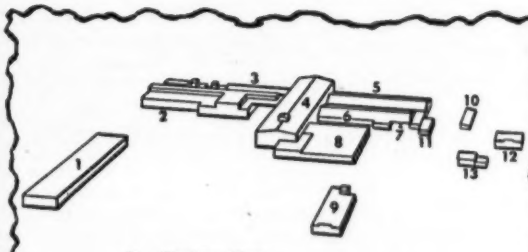
Logging roads have been built at Beaver Cove and the wood will be taken to tidewater by truck. From there it will be Davis-rafted to Ocean Falls.

Forty men are presently employed at the camp and this number will be increased to 60 when logging reaches its peak. First logs will be floated about May 1. The company expects to take out between 10 and 12 million feet this year.

Kalamazoo Superintendents Will Entertain Ladies

KALAMAZOO — The annual ladies night party of the Michigan Division of the American Pulp and Paper Mill Superintendents Association will be held Saturday evening May 11, 1946 at the Park-American Hotel, Kalamazoo.

UNDER COOPER'S "ROOFED ACRES" are produced the finest in stainless steel castings



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CA-108

United Wallpaper Earns $292,562 In Six Months

CHICAGO—Net sales of United Wallpaper, Incorporated, and domestic subsidiaries, for the first six months of the fiscal year, ended December 31, 1945, totaled $6,876,272. Net income for the first half of the fiscal year, after provision for income and excess profits taxes and for renegotiation of war contracts, totaled $292,562.

A special meeting of stockholders has been called for April 30, 1946, to vote on a refinancing plan the purpose of which is to consummate an expansion program which will improve and increase the production facilities of the company.

In a letter to stockholders accompanying a proxy statement, William H. Yates, President, outlined the refinancing program as follows: (1) Redemption of the currently outstanding $700,000 of six-percent cumulative prior preference stock at par plus accrued dividends; (2) Issuance and private sale by the company of $2,000,000 principal amount of three-percent Notes, due April 1, 1966; and (3) Issuance and public sale of 40,000 shares of cumulative convertible preferred stock with a dividend rate not to exceed 4½ percent.

The proceeds from the sale of notes and preferred stock will be used: (a) To retire Prior Preference Stock; (b) To construct a new modern one-story plant at Aurora, Illinois; (c) To move machinery to one of the new plants; (d) To construct a new modern one-story plant at Appleton, Wisconsin; and (e) To increase working capital.

Pierre Rolland Elected President

MONTREAL — J. Pierre Rolland has been elected president of the Rolland Paper Company Limited, of Mont Rolland and St. Jerome, Que., in succession to the late Jean Rolland.

Donnacona Paper Company Will Increase Capital

MONTREAL, Que., April 22, 1946 — Donnacona Paper Company Limited has called a special meeting for April 29 for the purpose of approving an increase in the authorized capital by the creation of 25,000 shares of 4½ per cent preferred stock of $100 par value, redeemable at 105, and convertible into common stock.

At the present time the capital stock consists of 376,572 no-par-value common shares authorized and outstanding. This suggests that the creation of the preferred stock will involve a collateral increase in the authorized amount of common stock, in order to provide shares against exercise of the conversion privilege of the preferred.

Howard Smith Paper Mills Completes Refinancing

MONTREAL—At a special meeting of shareholders held prior to the annual meeting of Howard Smith Paper Mills, Limited, unanimous approval was given a by-law providing for the cancellation of 3,297 unissued shares of the old 6 per cent preferred stock and the creation of 200,000 shares of the new $2 cumulative preferred stock of $50 par. This consent was required in connection with the preferred refunding operation which has already been completed.

Canada Paper Elects Simard

WINDSOR MILLS, Que.—J. Edouard Simard, general manager and vice-president of Sorel Industries, Limited, has been elected a director of the Canada Paper Company.

Great Lakes Maintains Its Profits for Year 1945

TORONTO—Great Lakes Paper Co. reports net profit for 1945 at $321,213 or $1.60 a share, compared with $320,673 or $1.60 a share in 1944. Balance sheet figures show net working capital of $3,753,975 against $3,858,902. W. Earl Rowe, president, states that the company's wood cut assures practically full operations to meet an increasing demand. He said directors are giving consideration to a plan of capital reorganization. Donnacona Paper Co., Ltd., has called a special meeting for today, April 20, to approve an increase in the authorized capital by creation of 25,000 shares of 4½ per cent. $100 par preferred stock.

Labor Relations Board Orders Atlas Election

APPLETON, Wis. — The National Labor Relations Board at Washington, D. C., on April 19 ordered a collective bargaining election among production and maintenance employes of the Atlas Wall Paper division of Kimberly-Clark Corporation. The election will determine whether employes desire to be represented by Local 298, International Printing and Pressmen and Assistants Union (AFL), or by the Wallpaper Workers' Union of the Fox River Valley for the purpose of collective bargaining, or by neither.

Carriers Ask Pulp Rate Hike

WASHINGTON, D. C.—American railroads this week petitioned the Interstate Commerce Commission for an increase of 25 per cent in rates on woodpulp, or a jump of ten cents per 100 pounds. Rates would become effective May 15, on 1 day's notice, under terms of the petition.

FINANCIAL RECORD OF THE WEEK

New York Stock Exchange

High, Low and Last for Week Ending April 20, 1946

STOCKS

	High	Low	Last
A. P. W.	9	8¼	9
Armstrong Cork Co.	62¾	59½	62¾
Celotex Corp.	30½	28⅝	30½
Celotex Corp., pf.	21⅜	20¾	21
Certain-Teed Products Corp.	22⅜	20⅝	22¼
Certain-Teed Products Corp., pf.	....	....	....
Champion Paper & Fibre Co.	59½	58¾	59¼
Champion Paper & Fibre Co., pf.	111½	111	111⅛
Congoleum Nairn Co.	37¼	36⅜	37⅛
Container Corp. of America	54½	50	53¾
Continental-Diamond Fibre Co.	16½	16	16⅜
Crown-Zellerbach Co.	39⅜	39	39⅛
Crown-Zellerbach Co., pf.	108	107½	108
Dixie Cup Co.	49	47½	49
Dixie Cup Co.—A	56½	55¼	55½
Flintkote Co.	45⅝	43⅛	44⅜
Flintkote Co., pf.	....	....	....
Robert Gair	10⅜	10⅛	10¼
Robert Gair, pf.	21	20⅞	20⅞
International Paper Co.	53¼	48⅝	52
International Paper Co., pf.	132½	122½	130
Johns-Manville Corp.	164	162	162
Johns-Manville Corp., pf.	149	148	149
Kimberly-Clark Corp.	70	68	69
Mac Andrews & Forbes	40	38¾	40
Mac Andrews & Forbes, pf.	....	....	....
Masonite Corp.	75	67⅝	74⅝
Mead Corp.	30½	27¼	30½
Mead Corp., pf. A—6%	107½	107½	107½
Mead Corp. pf. B—5½%	108	106½	107½
National Container Corp.	35⅞	33	35¼
Paraffine Companies, Inc.	90	87½	90
Paraffine Companies, Inc., pf.	....	....	....
Rayonier, Inc.	28⅞	26½	28¼
Rayonier, Inc., pf.	38⅛	37⅞	38
Ruberoid Co.	53⅛	51¾	53¼
Scott Paper Co.	56½	54½	56½
Scott Paper Co., pf.	....	....	....
Sutherland Paper Co.	55¼	49½	54¼
Union Bag & Paper Corp.	35½	31⅝	35¼
United Paperboard Co.	12¾	11¾	12
U. S. Gypsum Co.	127	120	127
U. S. Gypsum Co., pf.	....	....	....
West Virginia Pulp & Paper Co.	49	47½	48⅝
West Virginia Pulp & Paper Co., pf.	114	114	114

BONDS

Abitibi Pulp & Paper Co. 5s '53	....	....	....
Celotex Corp. 3¾s '55	....	....	....
Certain-Teed Products Corp. 5½s '53	....	....	....
Champion Paper & Fibre Co. 3s '65	106	105¾	105¾
International Paper Co. 5s '47	102	102	102
Mead Corp. 3½s '53	....	....	....

New York Curb Exchange

High, Low and Last for Week Ending April 20, 1946

STOCKS

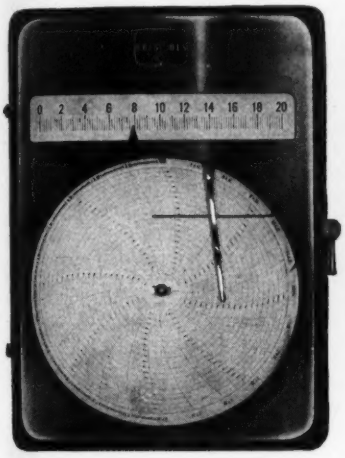
	High	Low	Last
Great Northern Paper Co.	44½	42¾	42¾
Hummel-Ross Fibre Corp.	18½	17¼	17¾
St. Regis Paper Co.	11⅜	10⅞	11½
St. Regis Paper Co., pf.	....	....	....
Taggart Corp.	10	9½	9½

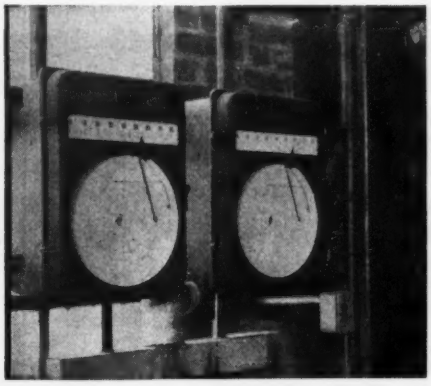
BONDS

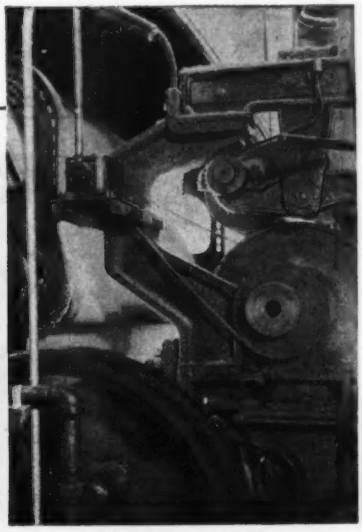
American Writing Paper Co. 6s '61	103⅛	103	103

How Bristol's Pyromaster Tachometers Report Changes in Paper Travel Speed

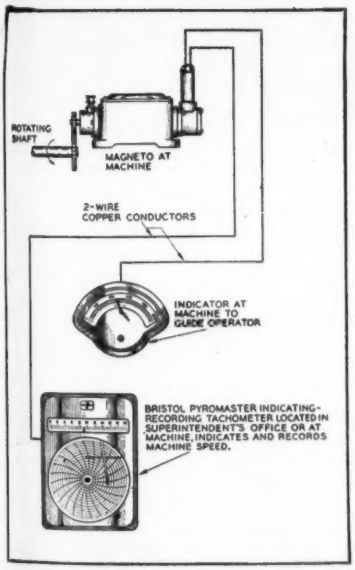
Instantly and Accurately...Electrically







Two Bristol Pyrometer Tachometers keeping tabs on machine speeds in a Massachusetts mill. Notice how the magneto is V-belt-connected to one of the rolls.


ROTATING SHAFT
MAGNETO AT MACHINE
2-WIRE COPPER CONDUCTORS
INDICATOR AT MACHINE TO GUIDE OPERATOR
BRISTOL PYROMASTER INDICATING-RECORDING TACHOMETER LOCATED IN SUPERINTENDENT'S OFFICE OR AT MACHINE, INDICATES AND RECORDS MACHINE SPEED.

Some paper mills install an indicating tachometer at the machine to guide operator and a recorder in superintendent's office for permanent records. Other mills rely on one Indicating-Recording Pyromaster Tachometer mounted close to the machine.

Bristol's Indicating-Recording Pyromaster Tachometer responds instantly to changes in machine speed as reported by the heavy-duty Model 44 Magneto which generates voltage directly proportional to the speed. The sensitive recording mechanism — unaffected by vibration — moves only when the galvanometer responds to a speed change. That reduces wear of moving parts to the minimum.

With no mechanical connection between galvanometer and the other units, the galvanometer, potentiometer unit and potentiometer relays are housed in separate gasketed cases for protection against dust and air currents when the instrument door is open.

All parts are accessible with the instrument in full operation. Dial and recording mechanism are mounted on the front of a hinged panel, with slide wire and potentiometer mechanism on the back. Each part can be serviced without disturbing any other part. No lubrication is ever required.

Other features of Bristol's Pyromaster Tachometer are fully described in Bulletin S1400. Address THE BRISTOL COMPANY, 148 Bristol Road, Waterbury 91, Conn. (The Bristol Co. of Canada, Ltd., Toronto, Ont. Bristol's Instrument Co., Ltd., London, N.W. 10, England). West Coast: *Branch Factory*—40 Berry St., San Francisco 7, Calif. *Branch Office* — White Building, Seattle 1, Washington. Lake Region: *Branch Factory & Office*—351 East Ohio St., Chicago 11, Ill. Southern States: *Branch Office*—Comer Building, Birmingham 3, Alabama.

BRISTOL

Engineers process control for better products and profits

AUTOMATIC CONTROLLING AND RECORDING INSTRUMENTS

AFL Stages Conferences On Local Problems

RICHMOND, Va.—Three sets of educational conferences in Mobile, Ala., Monroe, La., and Richmond, Va., for local officers of the International Brotherhood of Pulp, Sulphite and Paper Mill Workers have been held in recent months for the local unions in 25 mills in the southern states. Like earlier conferences of the same type, these emphasized the conduct of local meetings, local finances, handling of correspondence, and grievances.

A new item on the agenda was a Round Table Discussion on "Prospects for the Pulp and Paper Industry." The International staff members who were present, the Director of Research and Education, and his assistant conducted the Round Table by means of informal discussion back and forth. The subjects included the future of the pulp and paper industry in the South, pulpwood and pulp supplies, the status of labor organization, profits and wages, issues involved in wage increases, etc. The discussion was interrupted from time to time to permit questions from the floor. No effort was made to reach any conclusions or decisions, since the purpose was merely to explore the various subjects.

Arthur Ross, assistant to the Manager of the International Paper Company, Southern Kraft Division, spoke to the Mobile conference on the subject, "What Management Expects of the Union." I. A. Magnitizky, General Manager of the Gaylord Container Corporation spoke on the same subject at Monroe. At both conferences the union's side of the question was discussed by Vice-President Homer L. Humble.

The 135 local officers present at these conferences came from the following mills:

In Virginia — Camp Manufacturing Company, Franklin, Va.; Chesapeake Corp. of Virginia, West Point, Va.; Columbia Paper Company, Bristol, Va.; Taggart Corporation, Franklin, Va.; Johns-Manville Products Corp. of Va., Jarratt, Va. In North Carolina—North Carolina Pulp Company, Plymouth, N. C. In Florida, Mississippi and Alabama—Florida Pulp and Paper Company, Cantonment, Florida; Masonite Corporation, Laurel, Miss.; Gulf States Paper Corporation, Tuscaloosa, Ala.; Hollingsworth & Whitney Company, Mobile, Ala.; Bemis Brother Bag Company, Mobile, Ala.; Terminal Paper Bag, Mobile, Ala. In Louisiana, Arkansas and Texas—Bagpak Company, Bastrop, La.; The Brown Paper Mill Company, Inc., Monroe, La.; Gaylord Container Corporation, Bogalusa, La.; International Paper Company, Camden, Ark.; Southern Advance Bag & Paper Co., Inc., Hodge, La.; Southland Paper Mills, Lufkin, Texas; Terminal Paper Bag, Monroe, La.

International Paper Company, Southern Kraft Division at the following locations: Mobile, Alabama; Panama City, Florida; Moss Point, Mississippi; Bastrop, Louisiana; Springhill, Louisiana; Camden, Arkansas.

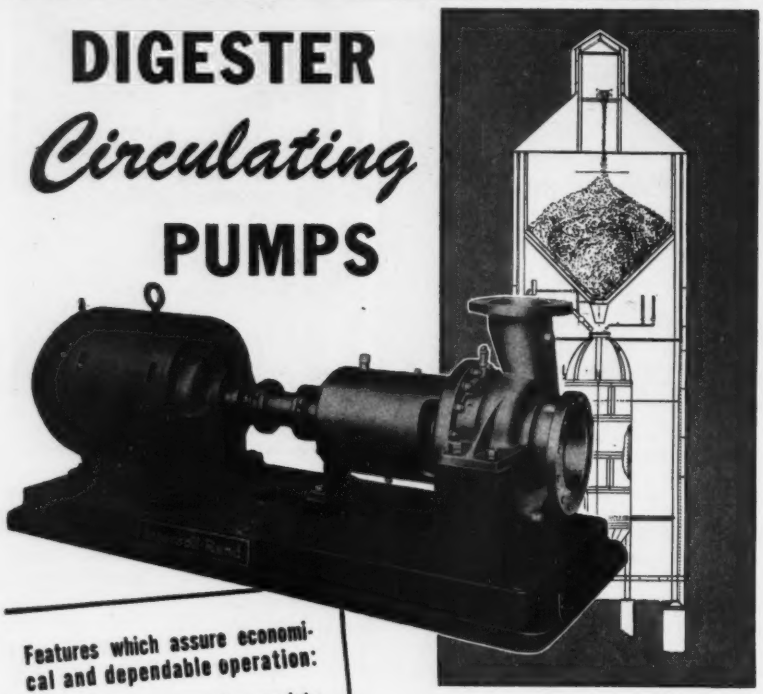
Papermaker's Union Removes Delegate

HOLYOKE, Mass.—Francis X. Naegelen, financial secretary of the Holyoke Central Labor Union, was removed as a delegate to that body by the Eagle Lodge of Papermakers and his membership in the Papermakers' Union revoked at one of the longest meetings of that organization in years.

Charges of crossing the picket line at the Pal Cutlery Company while the Metal Polishers' Union (AFL) were out on strike were preferred and after reports of President Andrew Beaton of Eagle Lodge and George Malone, president and business agent of the Metal Polishers, were heard, the group voted to withdraw Naegelen as one of their five delegates to CLU and to revoke his membership card.

According to information made available, Naegelen, a foreman at the plant, crossed the picket line after authority to do so had been withdrawn by the unions here. During the first few days of the strike, foremen and other office workers at the plant affiliated with labor organizations were granted the right to enter the building. Later this right was withdrawn.

DIGESTER
Circulating
PUMPS



Features which assure economical and dependable operation:

- Built from corrosion-resistant, stainless chrome-nickel-moly steel.
- Center discharge—simplifies piping—prevents vapor binding.
- Centerline support prevents misalignment when pumping hot liquids.
- Water-cooled stuffing boxes with *patented Leakollector* gland reduce packing problems.
- Unit is easy to disassemble without disturbing driver or pipe connections.

Hot, corrosive and often containing pulp fibres—that's the liquid in a pulp digester. The Ingersoll-Rand Digester circulating and Charge Pump is built especially to meet the exacting requirements of this service.

Let an I-R engineer give you complete details on these pumps. Also ask him for a copy of our Bulletin 7022 describing the complete line of I-R pulp and paper mill pumps.

Ingersoll-Rand
CAMERON PUMP DIVISION
11 Broadway, New York 4, N. Y.
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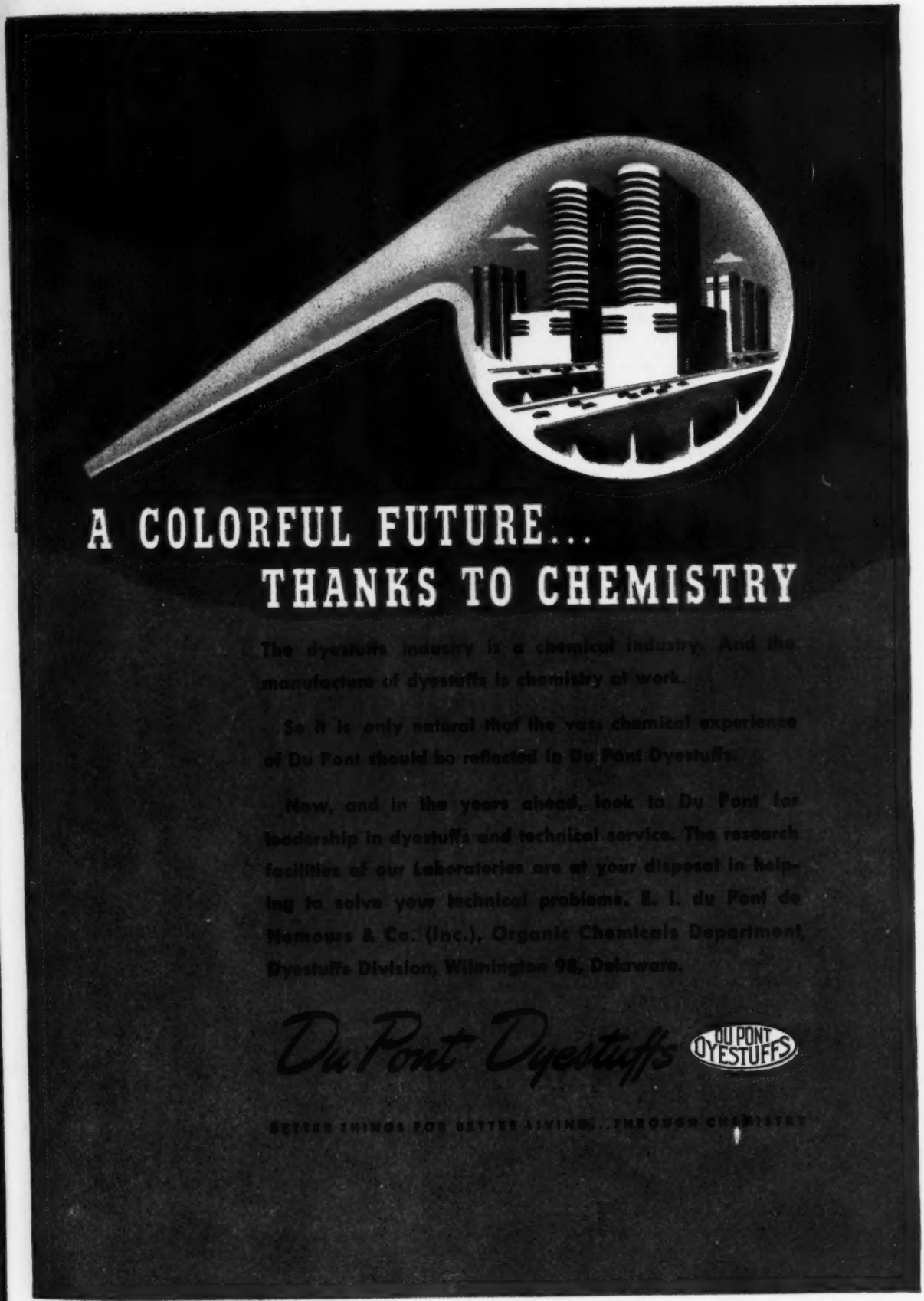

A COLORFUL FUTURE...
THANKS TO CHEMISTRY
The dyestuffs industry is a chemical industry. And the manufacture of dyestuffs is chemistry at work.
So it is only natural that the vast chemical experience of Du Pont should be reflected in Du Pont Dyestuffs.
Now, and in the years ahead, look to Du Pont for leadership in dyestuffs and technical service. The research facilities of our Laboratories are at your disposal in helping to solve your technical problems. E. I. du Pont de Nemours & Co. (Inc.), Organic Chemicals Department, Dyestuffs Division, Wilmington 98, Delaware.
Du Pont Dyestuffs
DU PONT DYESTUFFS
BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY

Twin City Council Opens Safety Drive

MENASHA, Wis. — More than fifty persons attended a meeting Tuesday evening, April 9, for mill foremen and supervisors, sponsored by the Twin City Safety Council, at Hotel Menasha. The theme was "Cooperating with the Nurse and First Aid Attendants." Six industrial nurses took part in the meeting. They were Miss Harriet Blomstrom of Gilbert Paper Company, Mrs. Frances Piel, Miss Marie K. Sorenson and Mrs. Blanche Stumpf of Lakeview mill; Miss Helen Hauser of Kimlark mill, and Mrs. Eleanor Schmidt, of Badger-Globe mill.

The relationship of the nurse and foreman was discussed with regard to the placement of injured employes on lighter types of work until the employe is able to resume regular work. Other questions included the problem of employes crowding into first aid rooms or around injured workers, the type of accident reports necessary and the responsibility for filling out these reports and problems arising out of the failure of employes to report industrial injuries.

James E. Bathurst, Dayton, Ohio, club service manager on the staff of the National Association of Foremen, was the speaker at the dinner meeting of the Kimberly Foremen's Club Monday evening, April 15, at the Kimberly, Wis., clubhouse.

ELLSWORTH H. SHRIVER, II

Student at the Institute of Paper Chemistry to whom was awarded the first annual award of the Paper and Twine Association for exceptional work done in the Institute as recommended by the faculty. Lieutenant Shriver is a graduate of Ohio State University in Chemical Engineering in the class of 1942. He served in the United States Army as a First Lieutenant in the Engineer Corps. The award consists of $100 in cash and $50 in technical books selected by the winner.

Dr. H. L. Shirley to Edit The Journal of Forestry

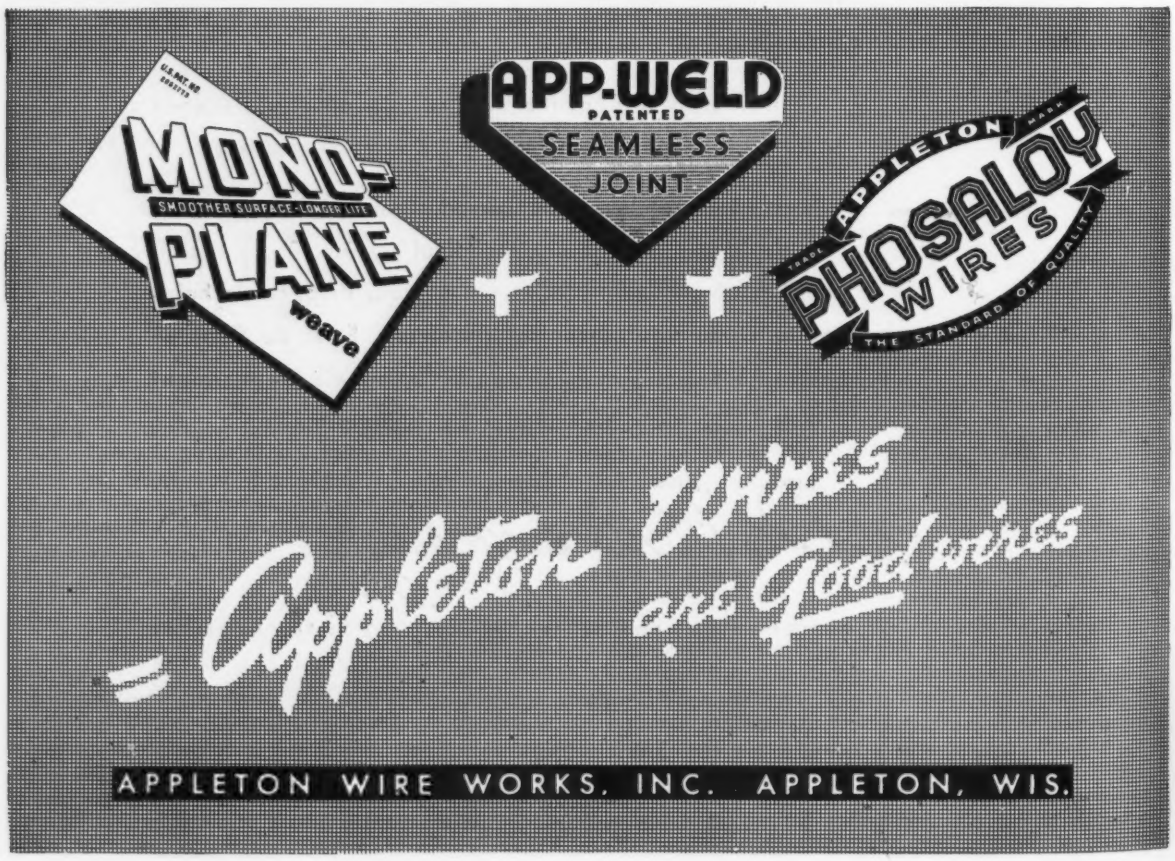
SYRACUSE, N. Y. — Dr. Hardy L. Shirley, assistant dean of The New York State College of Forestry, Syracuse University, has been appointed by the Council of the Society of American Foresters as the new editor-in-chief of the Journal of Forestry.

Dr. Shirley will take over his new duties, beginning with the May issue of the Journal. He succeeds Samuel T. Dana, head of the School of Forestry and Conservation, University of Michigan.

The Journal of Forestry is a professional publication devoted to all branches of forestry. It averages 80 pages in length and is issued monthly by the Society of American Foresters. Editorial comment deals with the important problems in forestry legislation and the practice of the profession. It is mainly devoted to scientific and technical papers by members, reviews, and criticisms of publications.

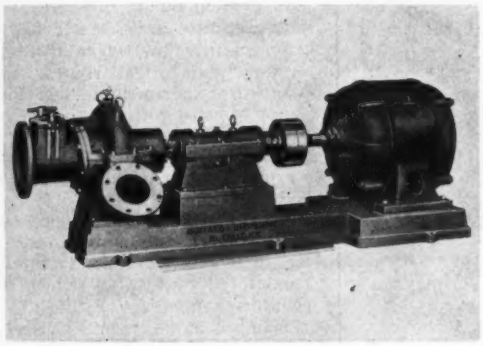
Kimberly-Clark Starts New Safety Campaign

KIMBERLY, Wis.—About one thousand employes of the Kimberly-Clark Corporation attended the first of a series of six safety programs at the Kimberly clubhouse Tuesday noon, April 9. J. T. Doerfler, mill manager, spoke briefly on safety.

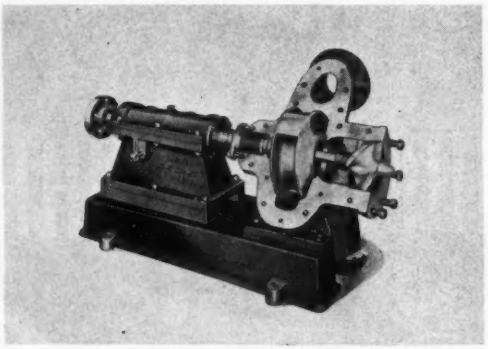


4 types to choose from...all proven-

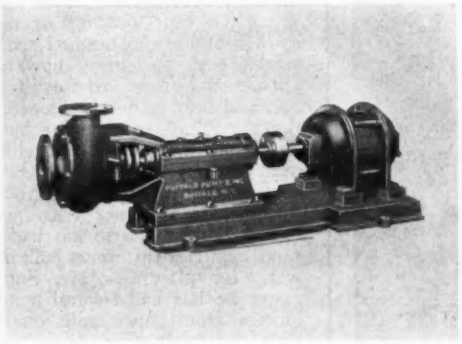
As a mill operator, you have definite preferences on pumps. Our experience has demonstrated that there is no single type of pump which will give universally satisfactory performance. Thus the Buffalo line is broad enough to enable you to select the pump which is best suited to your particular requirements. All Buffalo paper stock pumps are built to give exceptional performance; they are designed for the service and not adapted to it. Write today for Bulletin 953-F which gives complete details on the four types shown here.



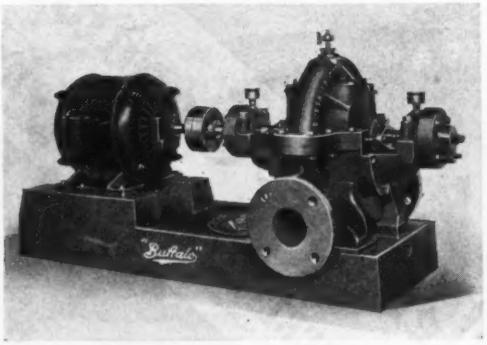
Buffalo Horizontally Split-Shell Single Suction Pump



Diagonally Split Shell Stock Pump —upper half of casing removed



Buffalo Solid-Shell Full Ball-Bearing Paper Stock Pump



Buffalo Double Suction Pump — clear water. Larger sizes for stock.

BUFFALO PUMPS, INC.

159 Mortimer St. Buffalo, N. Y.

Canada Pumps Ltd., Kitchener, Ont.

"Buffalo" PAPER STOCK PUMPS

Superintendents Will Listen To Speeches by Suppliers

An entire day of the Superintendents convention will be given over on Wednesday June 19th to a Forum on Improvements and Developments in the Paper Industry. Briefly this Forum will be "A Preview of Things to Come." The program will be divided into five parts, as follows: Wood Operations, Pulping, Stock Preparation, Paper Machines, Engineering.

Suppliers will be given an opportunity to tell Association members about the new and improved equipment and supplies they have been preparing for the industry. Short talks of not over five minutes each will be given describing these new ideas and after the talk a short discussion period will follow.

Riverside Union Seeks 15-Cent Hourly Raise

APPLETON, Wis. — Members of the Riverside Paper Corporation union, affiliated with District 50, United Mine Workers of America, have approved a proposed new labor contract with the company calling for a 15-cent hourly wage increase, according to Nicholas Fontecchio, regional UMW director. A no-strike clause is included along with provisions for arbitration. Negotiations with company officials have been started.

Herty Experiments With Bamboo Fiber Pulp

SAVANNAH, Ga.—Herty Foundation Laboratory, where Southern pine was put on the road to fame and a great $200,000,000 expansion in the South's paper industry given birth, is today placing its chip on bamboo as the next champion in the industrial march of this section. Bruce Suttle, director, reports that excellent results have been obtained with bamboo pulp at the little laboratory in West River Street and prospects for its commercial use in any kind of white paper are promising. Bamboo has a low bleach consumption, the same yield as wood and no replanting is required once it is set out, it was pointed out.

Mr. Suttle said ten cooks (3,000 pounds) are now on hand at the laboratory and a test run of tissue is planned. Experimental runs for a big paper concern were made some months ago, and Mr. Suttle said they were so successful the concern is interested in raising bamboo in Texas for commercial purposes.

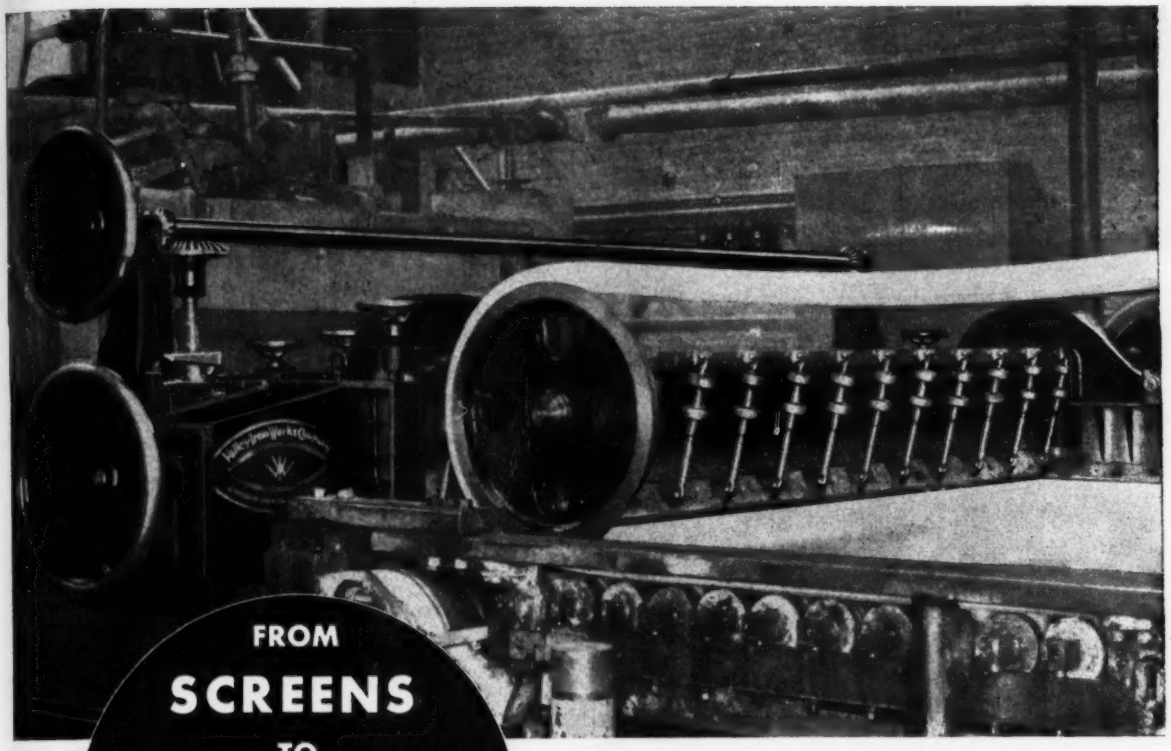
Working closely with the laboratory in the experiments is the Bamboo Farm on the Ogeechee road, maintained by the United States Department of Agriculture. Only a few of the 132 species of bamboo at the farm have been used in the experiments.

The timber-type bamboo is planted the early part of the year. For the first few years the growth is slow as the cane develops running roots thirty to forty feet in length. In about five years the cane reaches its maximum growth and size. The final six to eight weeks sees it surge upward in a phenomenal growth of forty to seventy feet and four inches in diameter. From the sprawling roots other buds form and renew the growth, thus eliminating need for replanting. Selective or section cutting of the cane yields nine tons to the acre per year.

The Bamboo Farm has had a thousand inquiries this year, bulk of which were for plantings. Mr. Suttle estimates he has had several hundred inquiries from paper mills on the possible use of bamboo.

Stein Retires from OPA To Open Law Office

BOSTON, Mass. — Henry J. Stein, Chief Counsel of the Surplus War Goods Office in the Office of Price Administration, and former senior attorney for the Paper and Paper Products Branch, has resigned, effective April 19, to return to the practice of law. Mr. Stein, who has been identified with OPA since its early days, having joined the price agency in April, 1942, will maintain offices in Boston, which is his home, and Washington, and will specialize in matters pertaining to agencies of the federal government.



FROM
SCREENS
TO
BREAST ROLL
BY
VALLEY

A Special Design for Rag and Heavyweights

This little inlet-headbox combines the best in old established paper-making experience with modern VALLEY know-how.

- **Deckles in while running.**
- **Saves valuable wire length.**

VALLEY has an inlet for *Your* Paper Machine.

VALLEY IRON WORKS, CO.,

Appleton, Wisconsin

Slices and Head Boxes • Screw Presses • Micro-Mist Spray Dampeners • Laboratory Equipment
Pulp Washing Systems • High-Speed Beaters • Breaker Beaters • Vortex Beaters • Plug Valves
Flat and Rotary Screens • Thickeners • Deckers • Paper Markers • Roll-Headers

E. de Vries Company Adds Three Veterans to Staff

Further augmenting its staff of specialists in connection with its expansion program, three veterans of long overseas service have joined E. de Vries Company, 220 East 42nd Street, New York City.

Theodore Brown, whose family is identified with the domestic paper industry, is now in training in the firm's New York offices as traveling liaison between New York and its agents throughout the world. As an Infantry lieutenant, Mr. Brown saw service in Iceland, England and Ireland before being wounded at Metz while acting as a machine-gun platoon leader in the 11th Infantry Regiment of the 5th Infantry Division. He was subsequently returned to limited duty with the Military Intelligence Service in Germany before his discharge from the Army.

John B. Lynch, for thirteen years associated with various paper companies in the metropolitan area, joins the New York executive staff to handle paper and pulp requirements. Serving as a captain in the Chemical Warfare Service during which he was Intelligence Officer and Company Commander, Mr. Lynch received six campaign stars with the 86th Chemical Mortar Battalion. At the close of hostilities, Mr. Lynch transferred into the Military Government Service and was Deputy Military Governor of three Bavarian counties.

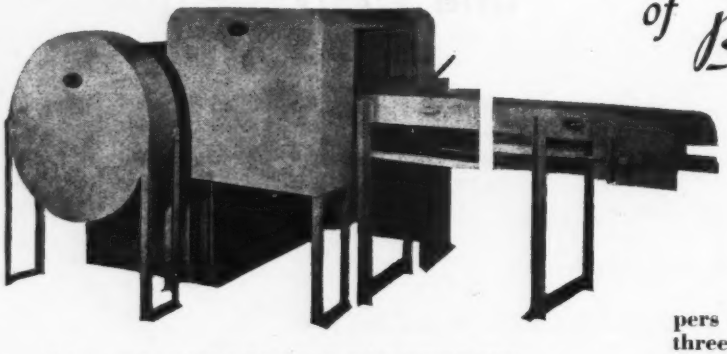
THREE WHO JOINED DEVRIES ORGANIZATION
Left to right: Theodore Brown, John Lynch, and Victor Race

Victor Race becomes associated with E. de Vries Company to inaugurate and develop the company's entrance into the field of plastics exportation. Before entering active service, he was engaged in development work in specialized branches of the paper industry.

Recently returned from 2½ years of continuous overseas service, Mr. Race was Executive Administrative Officer, with the assimilated U. S. Army rank of Major, aboard troop transports of the Transportation Corps.

Joining the firm in January as an earlier addition to the New York offices is Mr. William W. Freund. In charge of European and Latin American activities, Mr. Freund has been connected with domestic paper interests for eight years.

Better Cutting — reduces number of Beaters by Half!



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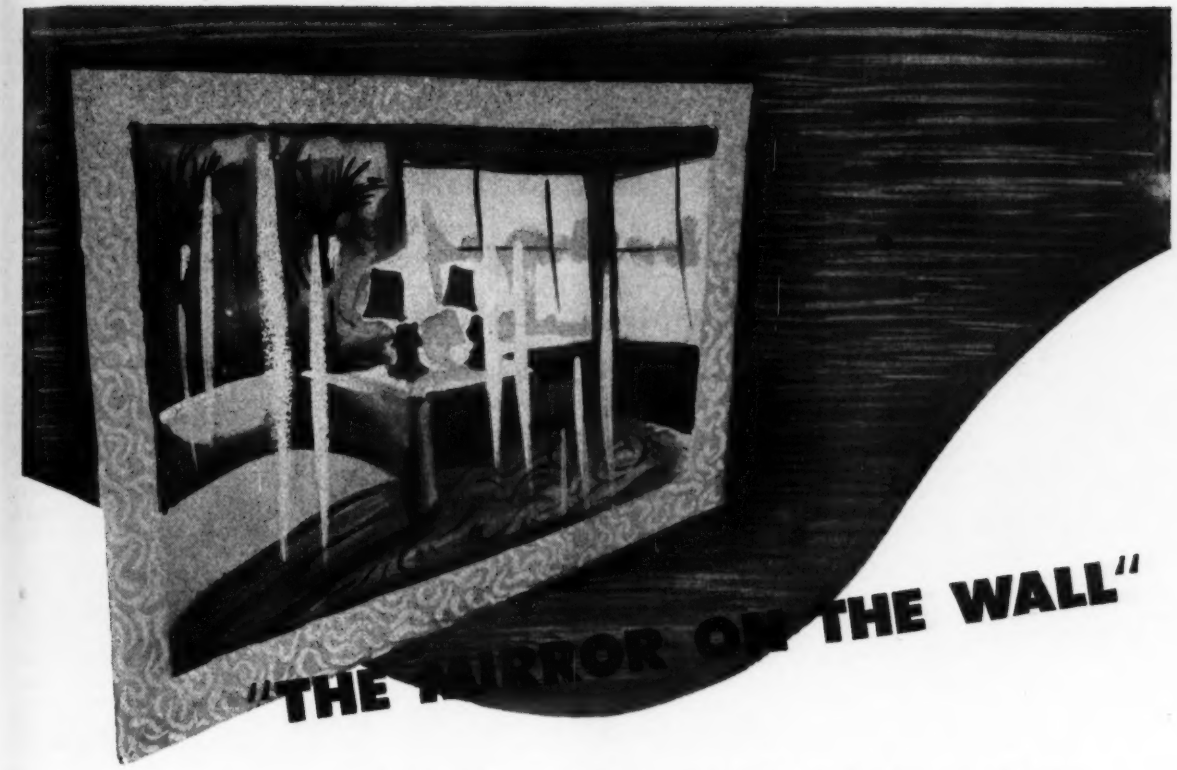

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Road Problem Holds Up Dam Development Plans

WAUSAU, Wis.—The question of relocation and abandonment of roads in Marathon, Wood and Portage counties may become a major if not an insurmountable obstacle in the proposed construction of the Dancy reservoir by the Wisconsin Valley Improvement Company, Wausau, Wis. The question was taken up last week at a meeting of the Marathon County board of supervisors at Wausau, Wis., and by the Wood County board of supervisors at Wisconsin Rapids, Wis. No conclusive action was taken in either instance.

At the Wausau meeting the supervisors ordered a public hearing on a proposal by the Consolidated Water and Paper Company, Wisconsin Rapids, Wis., to vacate several county highways in southern Marathon county in order to make way for the proposed reservoir in the Little Eau Plein river basin. This proposal involves vacating parts of County Trunks O, S, and C, and the relocating of County Trunk M. It was officially brought before the board by T. A. Taylor, field representative for Consolidated and a member of the Improvement Company, and Harold Loock, Consolidated engineer. Mr. Taylor said that Consolidated is now acquiring the necessary lands for the Wisconsin Valley Improvement Company. He emphasized that the reservoir project must be dropped if the counties involved do not vacate the roads. Mr. Loock said that it would be economically unsound to go to the expense of building a reservoir if the water power costs would be on a level with power generated by steam.

At Wisconsin Rapids, it was proposed to relocate County Trunk H in the town of Milladore, lying within the area to be flooded by the projected George W. Mead lake, which would be created by the project. The question was referred to the county highway committee for investigation. Its recommendation will be presented at the May session of the board, at which time a map is to be displayed to acquaint supervisors with the effect of the reservoir on all roads in the area. A petition for the relocation, presented by the Improvement company, was opposed by another signed by 96 Milladore farmers, who asked that the road be left where it is.

Mr. Loock also appeared at this meeting. He said that the Improvement company and Consolidated will bear all expenses of the relocation project, including fill, riprapping, culverts, bridges and surfacing. He estimated the cost of relocating the five miles of highway involved at $110,000, whereas to keep it in its present location would entail an expenditure of $315,000.

In Portage county, the Improvement Company is seeking abandonment of a portion of County Trunk H and a portion of County Trunk O, both in Eau Pleine township. Mr. Taylor told the board of supervisors of that county at its meeting at Stevens Point, Wis., that failure of the board to agree to abandonment of the roads as stated in the petition would mean that the company will temporarily abandon the Little Eau Pleine project and proceed instead with flowages south of Wisconsin Rapids at Petenwell and Germantown. Board action was deferred.

Waste Material Dealers Set Up Welfare Fund

For the first time in the history of the waste material industry in the United States according to published reports welfare fund has been obtained for 1000 employees of 150 waste material plants in the Chicago area. More than 75 percent of the employees are Negroes, according to P. J. Dorfman, secretary-treasurer of the AF of L Waste Material Handlers union.

Under the plan, which has been widely publicized here, employers contribute 3 percent of their employees' wages which are used to pay premiums on an over-all insurance policy. Under the policy, employees will receive dismemberment, death and sick benefits. Also included are hospital, medical and maternity benefits and payment for surgical operation growing out of either illness or accident.

The recently signed contract also includes a closed shop, checkoff of union dues, overtime after 40 hours, pay for six legal holidays each year, one week's vacation after one year of employment and two weeks after five, seniority to govern layoffs and rehiring and arbitration of disputes and grievances. During negotiations the employers group was represented by Ted Shulman, Sanitax Wiping Cloth Company; Harry S. Serlin, Serlin Junk Company; Abe Cohen of the Sangamon Paper Grading Company and Ben Chapman of J. Chapman & Sons.

Boat Plant Delivers Consoweld Hulls

WISCONSIN RAPIDS, Wis. — Consoweld, plastic product of Consolidated Water Power and Paper Company, is being used in the manufacture of Zephyr outboard boats at the Schneider Boat Company, Milwaukee, Wis. O. D. Schneider, president of the Milwaukee concern, described Consoweld as 30 percent lighter and stronger than materials previously used. Some of the rib structure in the framework of boats has been eliminated because of this, and ordinary tools can be used. There is the added factor of uniformity, since there is no trouble with grain. The first Consoweld Zephyr off the Schneider assembly line went to George W. Mead, Consolidated president, and has been in use in Florida for several weeks.

Ontario Newsprint Mills Raise Wages Ten Cents

TORONTO—Following four days of negotiations it has been announced a general wage increase of ten cents an hour will be granted by nine Ontario newsprint manufacturers to employees numbering about ten thousand. Eight AFL unions are involved. The principal unions concerned are the International Brotherhood of Paper Makers and the International Brotherhood of Pulp, Sulphite and Paper Mill Workers. Other trades represented by union leaders were machinists, plumbers, electricians, carpenters, firemen and engineers. The nine companies with whom the agreement was made are: Ontario Paper, Spruce Falls Power and Paper, Ontario-Minnesota Pulp and Paper, Provincial Paper, Great Lakes Paper, Abitibi Power and Paper, Beaver Wood Fibre, Manitoba Paper and Kimberly-Clark of Canada.

The unions had originally advanced demands for a 36- instead of a 48-hour week, plus a general wage increase of 15 cents an hour. The shorter work week was refused by the manufacturers, who argued that there was no unemployment in the paper mill areas and that the industry was working at full capacity.

The general wage increase is subject to approval of Ontario's Regional War Labor Board, but it is agreed that once passed by the board it will come into effect retroactive to May 1, the date on which price increases in the newsprint industry also go into effect. It is also agreed that the ten cents increase is to take care of the cost of living increases, and that wage negotiations will not be re-opened until the new contract is expiring on May 1, 1937.

Mathieson Plans Pilot Plant For Niagara Falls

NIAGARA FALLS, N. Y.—The Mathieson Alkali Works, manufacturer of heavy chemicals and chemical specialties, is about to build a new pilot plant in this city. The structural steel for the building is on hand and construction will get under way as soon as real estate negotiations are concluded. Expected to cost $150,000, the pilot plant building will be the second recent addition to the company's facilities at Niagara Falls.

Central Groups Will Meet May 14 at Blackstone

CHICAGO — The Blackstone Hotel will be the scene of a regional meeting of the members of the Central States Paper Association, Chicago Paper Association, Illinois State Paper Merchants Association, Middle States Wrapping Paper Association and the Wisconsin Paper Merchants Association. The one day meeting will be held on May 14 beginning at ten a.m.

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PAPER TRADE JOURNAL

Title Reg. U. S. Pat. Off.

W. L. Cook, Editor

THE NEWSPAPERS INTERPRET THE NEWS THEY PRINT

Of all the problems that beset the pulp and paper manufacturer, as they also hang over the operations of many another industrialist these days, that of the uninformed and worried customer presents the most delicate and the most dangerous. Too many people, notwithstanding their own difficulties and their own inability to expand their deliveries feel that their sources of supply should be above such minor obstacles as lack of materials to double production. And, since paper is basic, practically everybody, at some time or other asks about the prospects for more paper soon. Then, failing assurance that they will get all they want immediately, they rise to declare that there ought to be another law.

There have been many such cases, and many such declarations of late months by those who would be first to decry any movement that would have for its goal the eventual weakening of any portion of the domestic production structure. Usually such threats or such opinions are voiced by those who speak from incomplete knowledge of the facts, or are swayed by lack of patience induced by their own feelings of frustrations. Patience is a virtue, they say, but let the other fellow exercise it.

Patience, indeed, may be more than a virtue. It may very well serve, sometimes, as a controlling policy under which the facts may be studied, and plans made to take advantage of such brightness as the prospect affords.

For its temperate tone, in view of the critical perplexities of supply which the newspaper business has met in the past year, the American Newspaper Publishers Association is to be commended for its analysis of the situation. Before its convention this week in New York the Newspaper Advisory Committee laid out a summary of the facts, that with but slight modification might apply to other branches of the paper manufacturing industry.

"Actual production," says the report, "in Canada, the United States and Newfoundland for the first quarter of 1946 was 222,797 tons or 21.6% in excess of the same period of 1945. Canadian shipments to the U. S. have been at an all time high—managerial efficiency, weather and manpower combined to increase production. It would be unfair to say that there were six other reasons, at a dollar a ton apiece, that spurred production.

"Because of individual policies of contracting for newsprint and regional newsprint manufacturing difficulties, some publishers will have less than others. This is the overall picture. No one but your own source of supply can tell you what to expect."

Then the report goes on to show that four factors are responsible for the present world shortage of newsprint: loss of production of mills hurt by the War, demands on available supply by new users, mills switching to the manufacture of other grades of paper and increase in demand by newspapers.

High winds, unusually cold weather and severe storms greatly hampered woods operations and transportation in the northwest paper mill country last winter. The resulting shortage of pulp wood at the mills has already still further reduced shipments from this district. Labor trouble in the coal mines will affect newsprint production. Along with all other industries coal piles at newsprint mills are at a minimum. Newsprint mills are a long way from mines. A strike of even short duration will affect production because of the lag in the time it takes to transport coal to the mills once production is resumed. It takes a half a ton of coal to make a ton of newsprint.

A favorable factor in the short range viewpoint is found in the efforts of United States, Canadian and Newfoundland producers to maintain and, in many instances, greatly increase their production in face of many difficulties. A notable example is the prospective substantial increase in shipments to this country from Canada during 1946. Also, the 1945 and 1946 cutting season is reported as having been excellent throughout eastern North America, and unless something unusual occurs in the spring break-up, most of the wood cut should reach mills in due course before the end of the summer of 1946. Thus, near-peak production should be possible in the United States, Canadian and Newfoundland mills, commencing about August 1946.

A bright spot in the newspaper picture is the wholehearted willingness of publishers throughout the United States to participate in the so-called "New England Plan" making certain that no publisher through no fault of his own will be without newsprint to publish a minimum edition. The success of this plan demonstrates to the world that a free press can successfully solve its own problems by voluntary control.

Potential consumption of the United States will determine the long range viewpoint. Based on the greatest per capita use of 62.2 pounds of newsprint a year in 1929 and on the 1945 population of 139,621,000 the United States would need 4,342,213 tons

CALENDAR OF COMING EVENTS

June 17-20, 1946.—American Pulp and Paper Mill Superintendents Association, Annual Convention, Poland Springs, Me.

of newsprint annually. This is 412,000 tons more than the highest use in our history, which was in 1941. A demand of anywhere near this amount would mean a shortage for many years.

It is believed that expansion of newsprint production has been hurt by unfavorable reports on the decline of United States newsprint production over the past 25 years. The committee also believes that some of these reports have been superficial. The decline in United States production **was not due t**o the unwillingness of newspaper publishers to pay fair prices for newsprint.

Rather, we believe that the decline in the percentage of our supply produced in our country was due to the great increase in demand in the United States commencing with the last World War. The increased interest of the public in news attracted more and more advertisers to our columns and the accumulated demand became such that supply had to be based on mass manufacture. Typical United States mills with one or two small two-roll machines could not keep up with the demand. It necessitated great mills of four to six or more machines often making a web twice as wide as formerly and at fifty per cent greater speed.

The long range viewpoint for newsprint is good and not, as has been reported several times recently, of lessening interest to producers.

In addition, as soon as the demand in the general paper market begins to decline, which in all probability will be before the demand lessens for newsprint, a number of mills which have been attracted from newsprint to higher grades, may try to come back into the newsprint market. At least they did at the end of the boom following the first World War.

Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

Current Weeks—1946		Corresponding Weeks—1945	
March 9	103.4	March 10	87.7
March 16	104.1	March 17	89.4
March 23	105.0	March 24	92.1
March 30	104.9	March 31	88.9
April 6	104.1	April 7	86.8
April 13	*103.6*	April 14	87.4

COMPARATIVE MONTHLY SUMMARIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	86.7	89.4	90.2	88.1	89.8	91.2	80.8	88.6	90.2	95.9	95.5	91.0	89.7
1946	94.7	98.4	*104.4*										

COMPARATIVE YEARLY SUMMARIES

	1939	1940	1941	1942	1943	1944	1945	1946
Year to Date	79.9	85.0	89.9	103.1	88.7	88.0	88.3	*99.4*
Year Average	83.4	85.6	97.4	90.4	87.8	88.1	89.7	

*Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

PAPERBOARD OPERATING RATIOS†

Current Weeks—1946		Corresponding Weeks—1945	
March 9	99	March 10	94
March 16	100	March 17	95
March 23	99	March 24	99
March 30	100	March 31	100
April 6	99	April 7	92
April 13	*101*	April 14	97

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Year Avg.
1945	91	95	97	97	96	96	86	90	91	97	95	85	93
1946	90	97	*100*										

†Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

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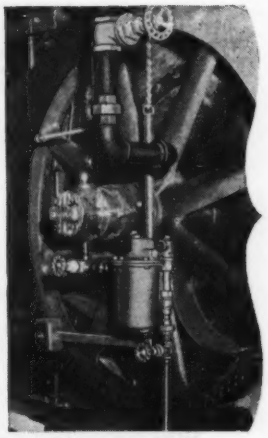
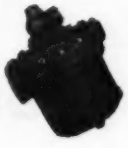


Series T, Low Pressure



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Series 100, High Pressure

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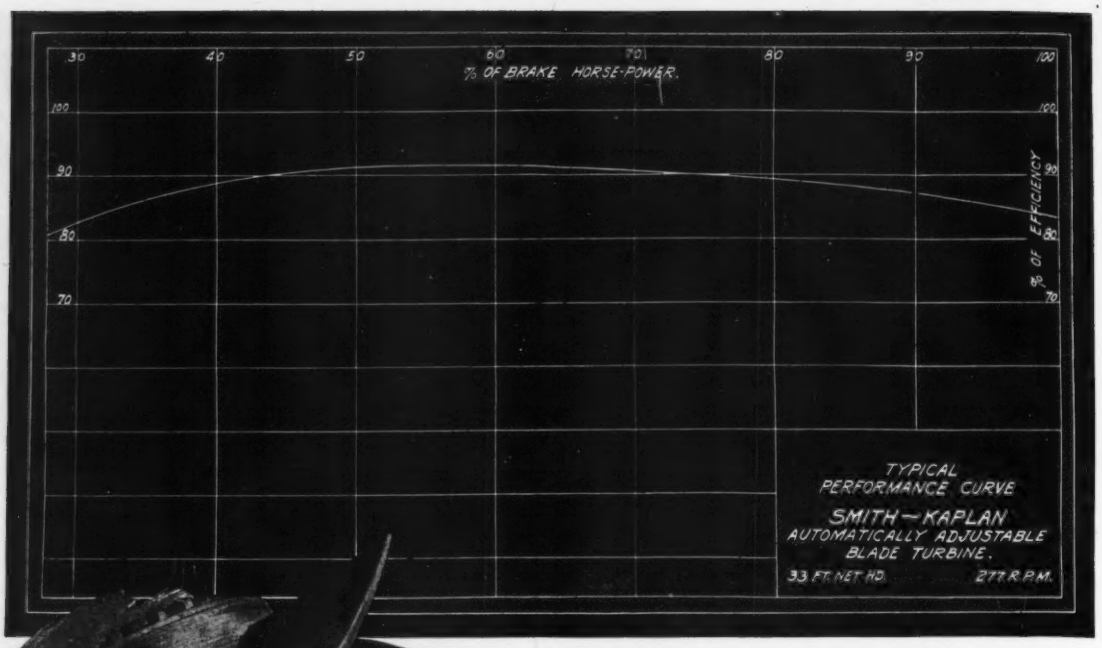

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122 E. 42nd St., New York 17, N. Y.
Edited by R. G. Macdonald, Secretary

Evaluation and Classification of Sulphite Pulps*

By Eugene G. Ingalls[1]

Abstract

A brief discussion of the varied use requirements for sulphite pulps is presented together with a general discussion of some of the tests applied to determine the suitability of a pulp for a particular use.

As there are many and varied uses for sulphite pulps, it is well at this time to give some consideration to the end uses to which they are put and then to consider what tests may be applied that will measure the suitability of products for the use intended. There are two broad fields in which sulphite pulps are employed. These may be classed as chemical conversion and paper. However, paper is much too broad a term for any practical purpose of testing and it is believed that this should be broken down into three classes which may be called (1) absorbent papers, (2) papers for general use, and (3) glassine and greaseproof.

Pulps for Chemical Conversion

First, to discuss the qualities which a pulp must have if it is destined for chemical conversion into such products as viscose, nitrates, esters, ethers and the like; as would be expected, the chemical purity of the cellulose is of the greatest importance. It is for this reason that sulphite pulps enjoy a major advantage in this field.

One of the first tests that might be applied is for cellulose content. Here it is very probable that a test for alpha-cellulose alone will not be sufficient, but that the amounts of beta- and gamma-cellulose will also have to be known. It is impossible to say what these values should be without having a rather clear knowledge of the particular chemical treatment to which it is desired to subject the pulp.

A second important chemical test is a determination of the viscosity of a solution of the pulp. This quality has generally been determined on a cuprammonium solution of pulp which has been prepared according to a specified set of conditions. A newer and apparently more successful solvent is cupriethylenediamine. There are many references to this in the recent literature. It is possible however, that neither of these solvents will be entirely successful in yielding values which will accurately predict the behavior of a given pulp when converted to a product such as viscose. Hence it may be found necessary to actually prepare viscose from a sample of the pulp, then to determine the viscosity of this material. Clarity and filterability of solutions such as of viscose or nitrate may also be of prime importance.

For certain uses it may be necessary to test for substances other than cellulose. These would include lignin; pentosans; ash constituents such as iron, manganese, and chloride; and for resinous materials soluble in ether, alcohol, or other solvents.

Physical tests are relatively unimportant in connection with pulps destined for chemical conversion. A major exception, however, is the quality usually referred to as color, whiteness, or brightness. Generally it is desirable that color be good to excellent. Cleanliness or freedom from dirt specks is also generally of prime importance. Such values as ease of hydration and engineering strength data (bursting strength, tearing, and folding resistance, etc.) are normally unimportant.

Thus it may be seen that when a pulp is destined for some form of chemical conversion, it is essential that the pulp be so modified during the process of its isolation that it is specifically fitted for the particular end use desired. This must be done, moreover, in such a manner that the price at which such a pulp can be sold is sufficiently low to make it an attractive raw material. The same also applies in the case of pulps destined for conversion to paper and paper products.

Pulps for Paper Conversion

It has been indicated that in determining the suitability of a given pulp for chemical conversion, tests have been applied which carefully follow the manufacturing procedure of the converter. The same is done with pulps which are destined for conversion to paper and paper products. In order to do this, first it is necessary to consider some of the tests which the papermaker will apply to his product. Among these are engineering strength tests, such as bursting strength, resistance to tear, folding resistance, tensile strength and stiffness. Color, cleanliness, formation, and bulk are also important. The papermaker will, of course, apply other tests but many of these will correlate with papermaking practices and not with quality of the original pulp.

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 25-28, 1946.
[1] Member TAPPI; Pulp Mill Supt., Wausau Paper Mills Co., Brokaw, Wis.

In studying the desirability of a pulp for paper conversion there is only a limited degree of interest in chemical tests which might be made on the pulp. In fact only such tests as viscosity which will make it possible to draw inferences regarding the physical quality of the pulp are even of passing interest. Of vital interest however, are such values as hydration properties, bursting strength, tensile strength, tearing resistance, and folding resistance. It must be remembered however, that the above mentioned strength data are obtained from test sheets made from the pulp and do not apply to the strength characteristics of the fibers themselves. Such qualities as color, freedom from dirt, and the degree of flocculation or deflocculation which a suspension of the pulp might exhibit are also important.

It is a recognized fact that in determining the desirable qualities of a pulp for papermaking use there is an attempt to reproduce in the laboratory something of the procedure followed by the papermaker. The pulp sample is subjected to beating in some form of equipment, then a waterleaf sheet prepared and after conditioning, that sheet is tested for various types of mechanical strength. At the same time the drainage rates of the pulp when beaten to various degrees are determined. In order that the data obtained may be reasonably reproducible certain arbitrary procedures to follow in beating have been standardized. The sheets are likewise prepared according to a standard procedure. The sheets are unfilled and unsized. All this is both necessary and desirable in order that different pulps may be compared or results reproduced with a given pulp. However, it is obvious that from such data it is impossible to predict accurately how a given pulp will react when treated by the various types of equipment used in different paper mills. Likewise, difficulty may be encountered in predicting accurately the results which may be expected in a given mill under varying use of the existing equipment. All that can be expected at present is to call upon a great amount of experience and then hope to properly evaluate the test results.

It would seem advisable, of course, to eliminate much of the present arbitrary procedure and to determine the fundamental qualities of the pulps in question rather than to study the characteristics of test sheets made from these pulps—characteristics which are influenced by such variables as fiber bonding which is not directly measured. It does not appear that a position has been reached where this can be done. Therefore it is necessary to continue to use the present arbitrary procedures.

Fiber length is another term which is freely used in discussion of pulp quality. However, it must be remembered that fiber length itself is of little interest. Other qualities which are normally associated with fiber length are the major interest. As an illustration, it is generally felt that a relatively short fibered pulp will make a paper sheet of inferior strength quality. This may and may not be true.

Absorbent Paper

In a discussion of the desirable qualities which should be formed in papermaking pulps, attention is directed to those pulps which are produced for the manufacturer of the absorbent type of papers. Here a pulp which has a suitable color and which hydrates rather slowly upon beating yet develops good strength is desired. It must be remembered that these papers are made at relatively high speed with little beating and that starches and the like are not extensively used. It is essential that sufficient strength must be developed within the sheet and yet the pulp must be very free and not hydrated in order that absorbent qualities may be maintained. Freedom from pitch precipitates is of great importance. The necessary good formation of the final sheet is directly related to the flocculating tendency of the pulp used.

Papers for General Use

When testing pulps destined for conversion into the general run of papers, such as wrapping, books, fine papers, and the like, very little weight is given to the chemical tests. As with pulps for absorbent papers tests for viscosity and the like may be made as a guide to manufacture. Ease of hydration and strength development are of course of primary importance. Ease of hydration is important because of the effect it has on paper drying rate and on the power consumed in stuff preparation. It is also of interest because of its relationship to strength development. No one pulp however, can be entirely suitable to the papermaker. Price, color, freedom from dirt and pitch, ease of hydration, strength development, etc., are all considered by him. The best the pulp manufacturer can do is to supply several grades having desirable properties and allow the papermaker to blend them as he sees fit. Thus some pulps will predominate in a given furnish while others are used as fillers where their special properties augment those of the major pulp. In general it may be said that high color, good strength development, relatively rapid hydration, good forming properties, and cleanliness are most in demand.

Glassine and Greaseproof Papers

The maker of glassine and greaseproof papers has an entirely different set of requirements. Nevertheless, he too, is only slightly interested in chemical purity of the pulp. In fact, the presence of certain impurities such as pentosans may be desirable. He is chiefly interested in the rate of hydration which the pulp will exhibit during treatment. These papers require a fiber which will hydrate readily and to such an extent it will form a very dense sheet of paper which is highly resistant to penetration by materials such as fatty and greasy substances. Thus the degree of hydration is of prime importance. In order however, to limit the treatment time necessary, and to hold equipment requirements at a minimum it is essential that the necessary degree of hydration be obtained in the shortest possible time consistent with the development of essential strength qualities. These qualities are frequently tested by means of strength and blister tests performed on test sheets prepared from specially beaten pulp. The equipment used may vary considerably from that used when testing pulps for other papermaking use.

It is thus seen that sulphite manufacturers are not engaged in production of one particular type of pulp but rather are faced with the necessity of producing many types of pulp to satisfy the requirements of the user. These requirements may be chemical in nature or as in the case of papermaking they may be physical. It would appear that the industry can be successful only to the extent to which it succeeds in accurately supplying the many types of sulphite pulps required.

High Density Bleaching of Mechanical Pulp With Hydrogen Peroxide*

By Robert L. McEwen[1]

Abstract

A general report of high density mechanical pulp bleaching with hydrogen peroxide is herein presented. Experimental data dealing with the bleaching efficiency of hydrogen peroxide are reported.

Methods of high density mechanical pulp bleaching are discussed.

The advantages of high density peroxide bleaching are considered in the light of recent developments, and suggestions for process variations are made.

The bleaching of cellulosic materials with hydrogen peroxide is far from being new or novel. Millions of yards of textile cotton goods have been bleached each year during the past two decades. Considerable progress has been made in this period, and especially during the past six to eight years. New developments in peroxide bleaching have evolved from a comprehensive study of the normal variables for any chemical reaction, such as concentration, temperature and reaction time. The results to the textile mills have far exceeded their dreams of twenty years ago.

Primarily, these achievements have been obtained by use of much higher chemical concentrations and high temperatures making possible continuous mill operation in a fraction of the time and at a fraction of the cost of previous operations. The resulting processes have been called "cold bleaching" for high density bleaching at room temperature and "steam bleaching" for high density bleaching at temperatures of around 100° C.

The study of these variables in relation to mechanical pulp bleaching has gone beyond the restrictions laid down heretofore, additional factors having been found, resulting in new, rapid, and efficient hydrogen peroxide bleaching procedures for mechanical pulps.

Experimental Data

In order to evaluate peroxide bleaching, an understanding of certain basic factors is essential. This is particularly true when evaluating the peroxide bleaching of mechanical pulps at high densities, since higher chemical concentrations result in increased rates of reaction.

The basic factors underlying the peroxide bleaching of mechanical pulps are:

(1) Stability of the bleaching solution, (2) temperature during the bleaching process, and (3) pH and total alkalinity of the bleaching solution. Of these, stability and temperature are of major importance for high density bleaching and are, therefore, discussed in more detail. As far as the pH and total alkalinity are concerned, the influence of these factors at high density on the bleaching reaction show similar trends to those found at low densities. These trends have been discussed at length in previous papers *(1, 2)*.

It is well-known that efficient peroxide bleaching necessitates the maintenance of a satisfactory active oxygen stability. An ideal bleaching condition is one in which practically all of the active oxygen is used for decolorizing the pulp. To achieve this, a number of factors must be considered. In the first place, noncellulosic foreign matter in the pulp may consume the active oxygen contributed to the system by peroxides. Moreover, metallic catalysts will tend to decompose the peroxide to form molecular oxygen which would be evolved to the atmosphere thereby decreasing the amount of peroxide available for bleaching purposes. Hence, the peroxide bleach must be controlled to an extent that will permit only the minimum quantity of active oxygen to be consumed by these side reactions and will allow the maximum amount to be utilized for oxidation of the coloring matter in the pulp.

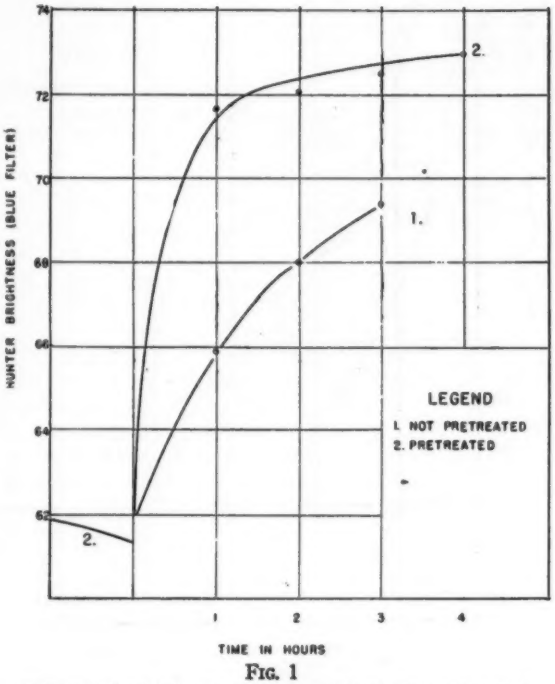

FIG. 1

Effect of Hypochlorite Pretreatment on Bleach Response at 25% Consistency

In order to effect better active oxygen stability, peroxide stabilizers, such as sodium silicate, are used.

Under conditions of high density bleaching, the concentration of the ever-present, undesirable catalysts is very high. To counteract this increased catalytic activity, control of the active oxygen stability becomes of extreme importance. Fortunately, however, this problem can be solved comparatively easily since higher concentrations of sodium silicate, necessary for better stability, can be used without causing detrimental effects and without increasing the total percentage of sodium silicate based on the moisture-free pulp weight. It has been found that the optimum percentage of sodium silicate used at low densities,

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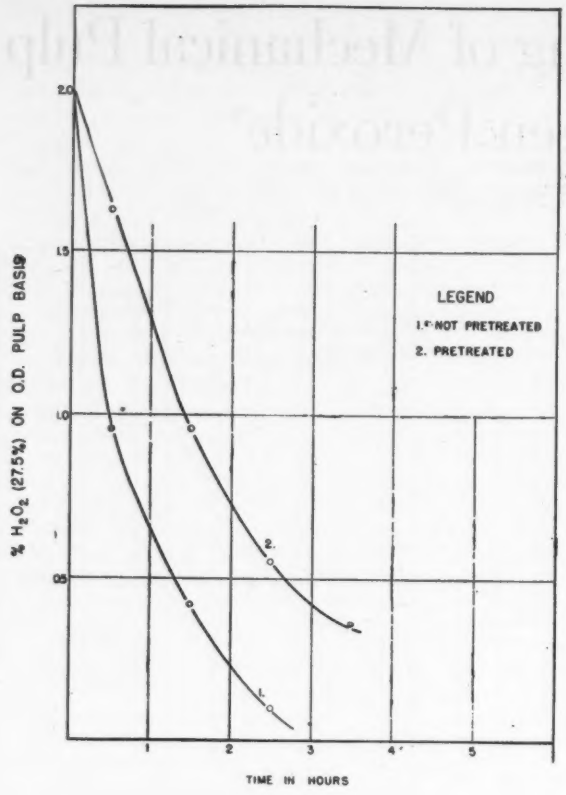

FIG. 2
Active Oxygen Stability of Bleach Bath at 25% Consistency

which is usually 6 to 8%, remains the same at high densities.

Other undesirable side reactions also make themselves known at high densities, and it has been found that to nullify or suppress these side reactions, a short pretreatment of the pulp is, in almost all cases, a necessity. This pretreatment, which may be called a "conditioning" action, materially increases the efficiency and response of the subsequent peroxide bleaching treatment.

It has been found * that small quantities of active chlorine, when applied to mechanical pulp in a controlled manner, are eminently suitable for suppressing the undesirable side reactions which normally occur. The most favorable operating conditions have been found to be the following:

(1) Maintenance of the active chlorine concentration between 0.25 to 1%, on a moisture-free pulp basis, (2) maintenance of the pulp suspension at pH values between about 6 and 8, (3) work at pulp consistencies between 0.25 to 3%, and (4) assurance of thorough, immediate, and uniform blending.

Figure 1 shows the rate of brightness increase of spruce mechanical pulp which was bleached with hydrogen peroxide with and without the abovementioned pretreatment. It can be seen that the rate of brightening is higher when the pulp is pretreated, and that the maximum brightness obtainable is considerably greater. Figure 2 shows the corresponding peroxide stability curve. Numerous tests have been made on spruce, balsam, aspen, southern pine, and western hemlock mechanical pulps, and in virtually every case, the value of this pretreatment has been established.

* Patent applied for.

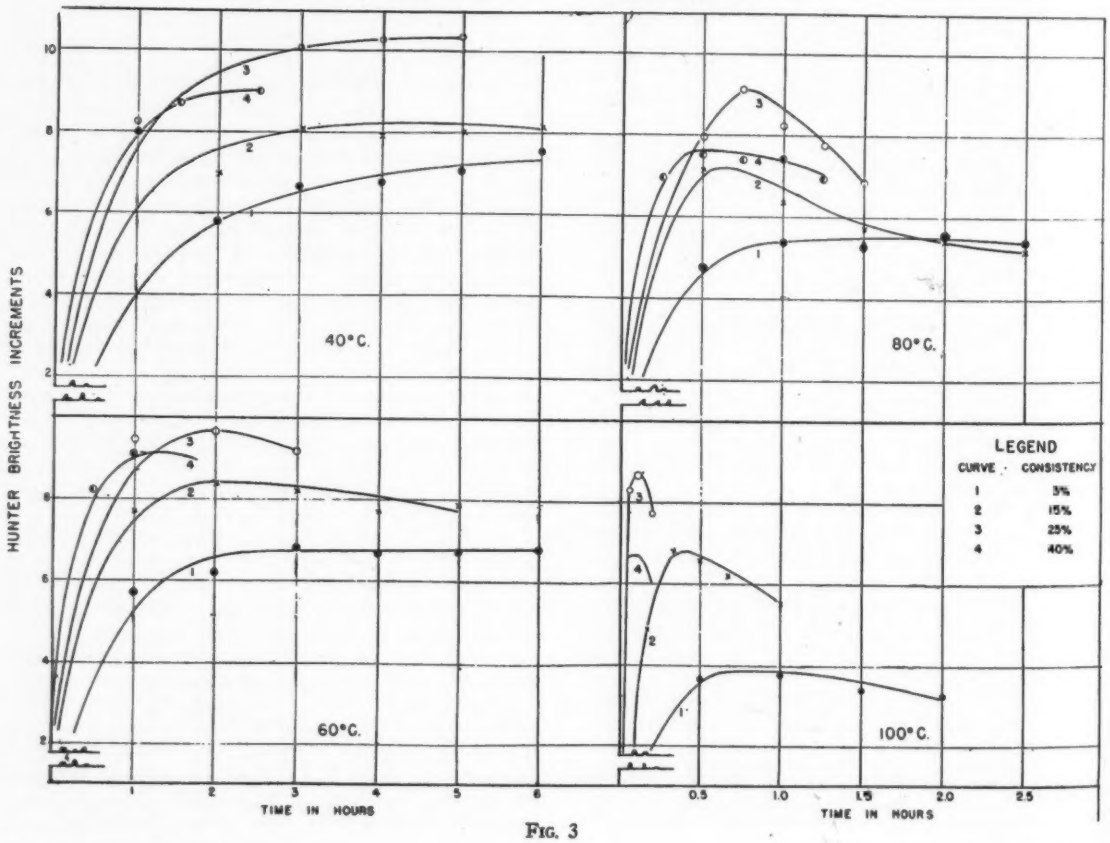

FIG. 3

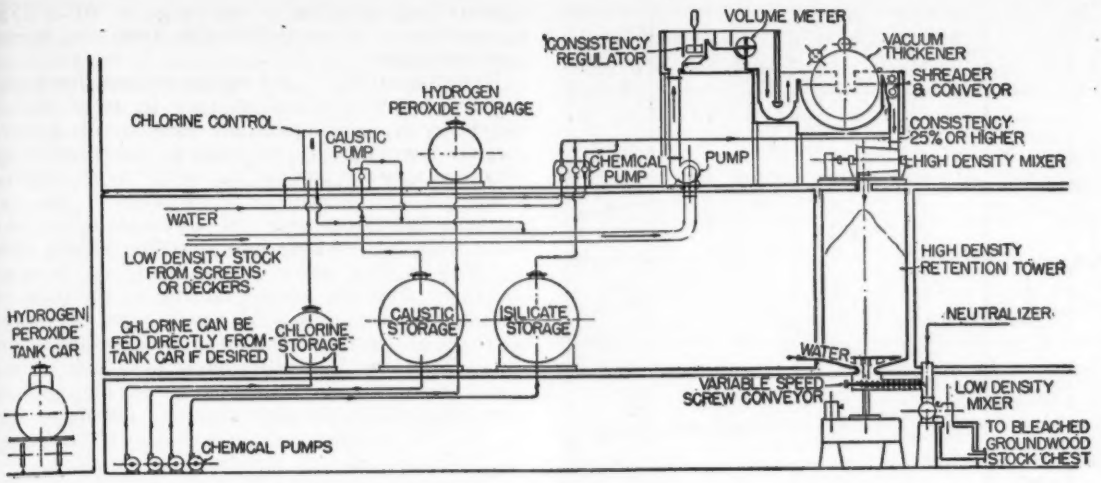

Fig. 5
High Density Ground Wood Bleaching System
(Bleach may also be applied to the pulp on the vacuum thickener if desired)

A similar beneficial conditioning effect has been observed by pretreating mechanical pulps with mineral acids at pH's below about pH 3.0.* Such a pretreatment was found to be particularly effective when the pulps were subsequently bleached at high densities.

The second important factor to be considered under conditions of high density bleaching is the effect of temperature. It is well-known that the rate of bleaching increases very rapidly with increasing temperatures. It has been found that this temperature effect is much more pronounced at higher densities than at low densities.

Extensive experimental data have established the very close interdependence of consistency and temperature, and it has been found that one cannot be considered without the other. In this investigation, the rate of brightness increase was taken as a measure of the rate of bleaching reaction.

The study of the effect of the bleaching temperature covered the range from 20 to 100° C (room temperature to steam temperatures) at consistencies varying from 3 to 50%. At room temperatures the rate of brightening, as well as the maximum pulp brightness obtained, increased with an increase in pulp consistency. It was found possible to obtain a maximum brightness in 4 hours at 25% consistency, whereas it required 8 to 12 hours to reach the maximum brightness at 3% consistency.

At 40° C the same increase in the brightening rate and in the maximum brightness obtainable is noted as consistencies are raised. At densities over 20%, maximum brightness could be obtained in 2 to 3 hours. (Fig. 3).

At 60° C the same general trend continues with regard to the increased rate of brightening.

When temperatures of 100° C are approached, the rate of brightening is so rapid that the best bleaching result is obtained in from 5 to 15 minutes at pulp consistencies over about 20% (Fig. 3).

The curves have been extended beyond the times at which the peak of brightness is reached. It will be noticed that some of the curves slope downward. Increases in both temperature and consistency produce steeper slopes. This means that color reversion takes place at a greater rate at high temperatures.

The choice of temperature, therefore, should depend not only on the bleaching time but also on the practicability of arresting the action at the peak of the brightness curve, thereby avoiding color reversion. This may be accomplished by lowering the pH, the temperature, or the density, or preferably by lowering all three.

Experimentation at this date has shown that the optimum efficient bleaching temperature, as determined by the maximum brightness obtained, is in the range of 40 to 60° C at consistencies of about 20 to 40% (Fig. 4). Although high consistency bleaching (20 to 40%) at room temperature (cold bleaching) or at temperatures of about 100° C (steam bleaching) does not appear to give the greatest brightness, further studies, now underway, may reveal how better results may be achieved.

After having discussed the most important factors that must be considered when bleaching at high densities, it will be of interest to translate this knowledge into practice.

High Density Mechanical Pulp Bleaching

It has been shown that a high density peroxide bleaching process is most efficient when preceded by a short pulp treatment with hypochlorite, before the pulp is thickened to high densities. The hydrogen peroxide and sodium silicate are then applied to the pulp. Depending on the bleaching temperature, the pulp is allowed to stand for the required length of time until the maximum brightness is obtained. It

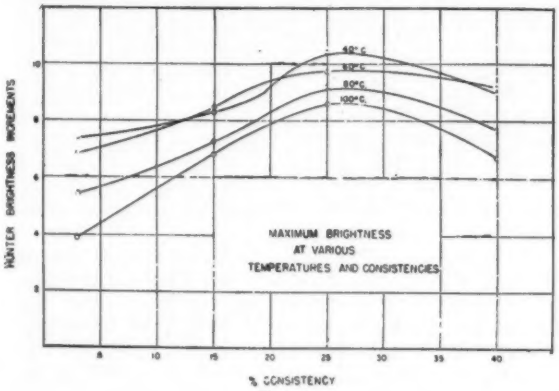

Fig. 4

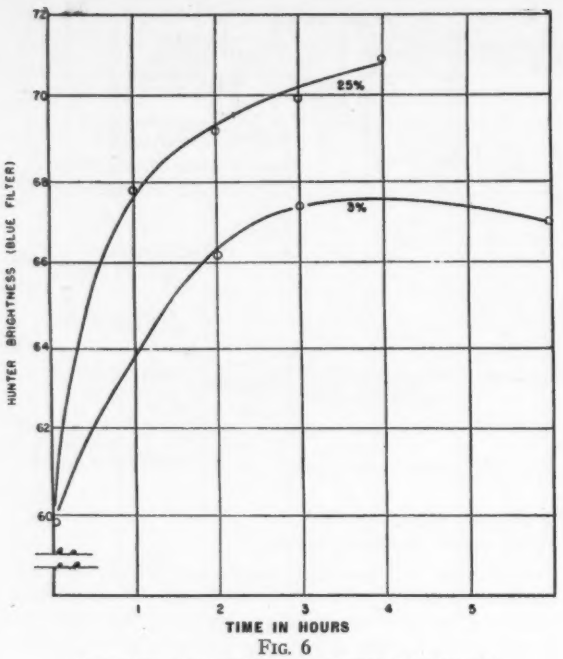

FIG. 6

Comparison of 3% and 25% Consistency Bleaches with 2% H_2O_2 (27.5%)

is diluted, the pH is adjusted and then it is sent to the storage chest for the bleached pulp.

The conditioning treatment is very rapid and simple to carry out. As the small quantities of active chlorine are immediately consumed by mechanical pulp, the hypochlorite may be added at the bull screen, or at any convenient place ahead of the high density thickener. The preparation and feeding of hypochlorite may be accomplished by the use of a standard water type chlorinator, the pH of the system being automatically controlled by the application of caustic soda fed to the system by a proportioning pump. Such a system is shown in Fig. 5.

After the application of the hypochlorite solution, a pump sends the stock to the consistency regulator and metering device. A vacuum type thickener equipped with press rolls raises the pulp consistency to 20 to 25%. The actual percentage will depend on pulp freeness and stock temperature. Additional press sections would be necessary to raise the consistency still higher.

After thickening, the bleaching solution containing hydrogen peroxide and sodium silicate is applied. This may be accomplished by padding the solution onto the pulp sheet or by use of a high density mixer. Steam may be applied at this point. The pulp is dropped into a high density retention tower where it continuously falls by gravity, the complete passage of pulp being timed for optimum brightness results. The pulp crumbs are then discharged from the bottom of the tower, passed to a low density mixer where the pulp is diluted and neutralized, and thence pumped directly to the bleached groundwood storage chest.

In high density operation, as schematically shown above, a compromise must be made between the cost of the high density thickening equipment and the advantages gained in terms of brightness when operating at a particular consistency. Operation at densities of 20 to 25% will generally result in an increased brightness of about 50%, based on the brightness obtained at low density. It, therefore, appears that operation in the range of 20 to 25% in most cases is very favorable from the overall cost standpoint.

Referring to Fig. 5, the equipment used for applying the bleaching chemicals may be seen. All of the chemicals, being liquids, are automatically pumped directly from storage equipment to the point of application making use of the newer type chemical proportioning pumps or rotometers. In this manner, the preparation of chemical stock solutions with the resulting loss in active oxygen upon standing is eliminated. In addition, as chemicals are piped from the source directly to the point of application, operators need never come in contact with any of the chemicals used in the bleaching operation. As it has been determined that high density operation requires less alkali to obtain the optimum brightness results, the alkali necessary for this process is generally supplied by the sodium silicate needed for optimum peroxide stabilizing effects.

The above schematic plan makes use of equipment which is available to the industry. Several other plans have been suggested. Laboratory and mill trials have proved the many advantages of operating in this general manner.

Variations in the schematic flow plan shown in Fig. 5 become apparent when one considers the possibilities of high density operation at varying temperatures.

In the case of "cold bleaching", the high density pulp web or lap may be impregnated by padding or spraying with hydrogen peroxide and sodium silicate and allowed to stand in a stacked condition at any place in the mill. These webs or laps may be formed on a vacuum type filter, on a multiple cylinder machine, or on a modified wet lap machine. If further experimentation shows a way to acidify these laps after the maximum brightness has been obtained, these laps may be stored for prolonged periods without marked color reversion.

Another variation of the high density process could be called "steam bleaching". The pulp lap or web may be prepared in the same manner as described above, saturated with the hydrogen peroxide and sodium silicate and then subjected to an atmosphere of steam, whereby the maximum brightness may be effected in a matter of a few minutes. Such high

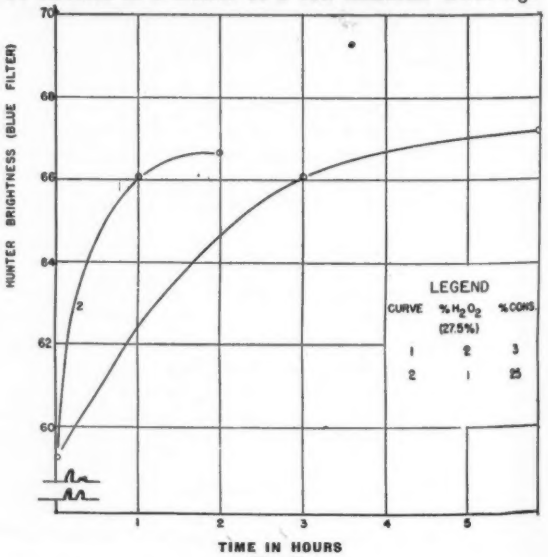

FIG. 7

Comparison of 3% and 25% Consistency H_2O_2 Bleaches

temperature operation at high density requires much closer control of the operation in order that the action may be arrested at the point of maximum brightness. Several types of machines are in use in the textile industry which might possibly be adapted for use in pulp bleaching. One type of steamer consists of an endless belt which would carry the pulp continuously through a housing to which live steam is applied. Another means of applying steam might be the use of a stainless steel chute in the form of the letter "J" which would permit the heating and retention of the pulp for the required short period of time. Discharge of the pulp in the latter case might be accomplished by sluicing with water or by removing the pulp from the bottom of the chute by mechanical means. In either case the dilution with cold water and neutralization should take place at the time of maximum brightness.

As indicated above, present experimental data show that the optimum bleaching temperature is in the neighborhood of 40 to 60° C., yet at room temperature or at steam temperature good brightness effects may be obtained. The main advantage of steam temperatures would lie in the extremely short retention time necessary as well as a saving in mill space.

After describing the work which has been carried out at high density as well as how it can or might be adapted to the mill, it is logical to ask, "Why go to all this trouble to thicken and redilute the pulp when the only apparent advantage seems to be a saving in bleaching time?" The answer to this question may be summed up in one sentence which is of interest to everyone in the industry. It can be simply stated by saying, "It is cheaper to bleach at high densities".

Results to date, comparing the bleach response of pulp bleached in one case at 25% consistency and in the other at 3% consistency, have shown that the high density bleached pulp may have as much as a 50% increase in brightness at the same chemical cost.

Some groundwood pulps, particularly aspen pulp, may be bleached with lower amounts of hydrogen peroxide under conditions of high density resulting in a very substantial brightness increase at a cost of less than 50c per point brightness increase per ton.

Another advantage of bleaching at high density has been observed in the case where moderate brightness increments are desired. In these cases, a 1% peroxide bleach at high density will give an equivalent bleach response to a 2% peroxide bleach at low density (Fig. 7).

An additional example demonstrating the tremendous advantages in operating under conditions of high density is the case of certain difficultly bleached mechanical pulp types. In the case of southern pine and western hemlock pulps, experimentation has shown that low density operation results in little or no brightness increase when using 2% hydrogen peroxide, whereas when the same pulps are bleached at 25% consistency, the bleach response is considerable. Figure 8 shows a comparison in the case of these two types of mechanical pulp.

For mills having highly colored water, high density operation may also have an advantage, as some of the soluble coloring constituents of the water are removed from the pulp before the bleaching chemicals are applied.

The uniformity of bleaching results is another noted advantage of high density operation. Definite trends are indicated which show that high density operation will produce closely equivalent brightness

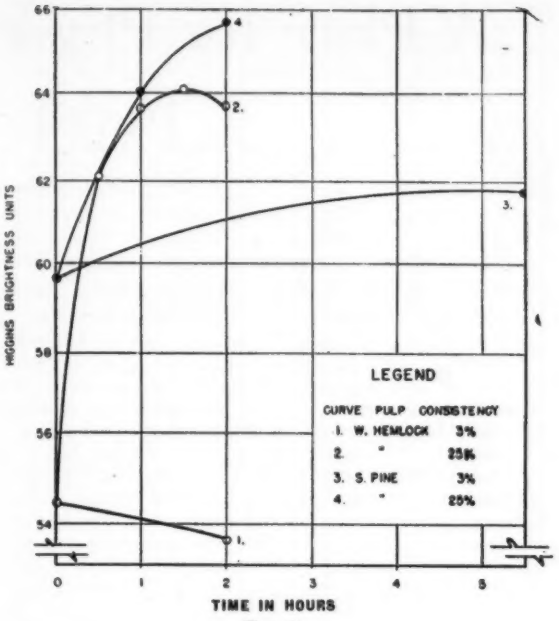

FIG. 8

Southern Pine and Western Hemlock Bleaching at 3% and 25% Consistency. (H_2SO_4 Pretreatment—2% H_2O_2 (27.5%) Method)

results from day to day. To date, different pulp wood types have shown varying quantitative brightness results, although within a pulp type, the bleach response is reproducible and quite consistent.

These savings in chemical cost when operating at high density are somewhat offset by the added cost of high density thickeners and mixing equipment, not needed at densities up to about 6%. Reasonable estimates have shown that this equipment will cost approximately 50c per ton of pulp more than low density bleaching equipment, yet the cost advantage, when operating at densities of 20 to 25%, is generally better than about $2.00 per ton.

Mechanical pulps which have been pretreated and bleached at high density appear to have physical properties closely approaching those of unbleached pulps. One hundred per cent bleached groundwood pulp handsheets showed little change in bulk, tear or bursting strength. Pulp yields are nearly the same as those of processed unbleached pulps. Tests of printing opacity indicate a loss of about 1 to 2% in the range of brightness increases of 5 to 10 units. Although data regarding light ageing of high density peroxide bleached pulps are not at hand, it is felt that the brightness-time curves will parallel those of the unbleached pulp, as is the case when the low density peroxide bleaching method is used.

Research and development on the subject of peroxide bleaching of mechanical pulps at high densities are being continued and it is hoped that additional data may be available at an early date.

Acknowledgement

The author wishes to express his appreciation for the valuable cooperation given him throughout the investigation by Professor C. E. Libby and his staff at the New York State College of Forestry, Syracuse, New York.

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A Place for Physicists in the Pulp and Paper Industry*

By R. N. Griesheimer[1] and R. H. Savage[2]

Abstract

Because of the emphasis given to physics during World War II, a greater recognition of the value of this science by industry, in general, can be expected. The pulp and paper industry has need for physicists but it will be necessary to interest them in the industry. The relationship of the manufacturer and the physicist is discussed.

In the postwar period physics can be expected to take a place of prominence in industry parallel to that held for many years by chemistry and engineering. Even before World War II there was evidence of a growing interest in physics on the part of industry, due largely to the imagination and progressiveness of those companies which successfully weathered the storm of keen competition and slackened over-all demand that characterized the depression years. Many of them investigated physics as a "new" and potentially useful research tool, and the success of the experiment reflects in the ever-increasing number of physicists which industry is now bringing into its laboratories.

During this last war the physicist has played a prominent role in the development of many new weapons,—not the least of which have been improved airplanes, improved radar equipment, and, of course, the almost fantastic atom bomb. The resulting, favorable publicity that will accrue to physics will unquestionably provide further impetus to enlarge on the applications of the science in industry,—it having now been firmly established that physicists *can* be practical scientists, and *can* operate under pressure of production planning and production deadlines.

There appears to be little doubt that industry's demand for physicists will outrun the supply, and that this unfavorable balance may be expected to continue for some years to come. It therefore behooves the pulp and paper industry to critically examine its own needs for physicists, and to take the necessary steps to induce these men into its ranks.

The Problem of Interesting the Industry in the Physicist

This paper will take as its objective the promotion of the place of physics in the pulp and paper industry. The industry is fortunate in having a small number of well-qualified physicists within its ranks, but by and large the number is small in comparison to the needs and opportunities inherent in the industry. To approach the objective we must strike at the two basic issues: (1) the problem of awakening the industry to its needs for physicists, and to an understanding of how best to make use of those men whom it may acquire, and (2) the problem of interesting qualified physicists in the opportunities with the industry.

Fortunately, considerable progress has already been made in the matter of leading the industry to an appreciation of the potentialities of physics. This has been accomplished in a number of ways. The Institute of Paper Chemistry has led the way by including in its faculty several very capable physicists whose published research on a wide variety of the industry's problems is well known. Further, Institute graduates have been taught enough physics to recognize many physical problems and some of the methods for their solution, and consequently are in a position to recommend to management many problems wherein a physicist can be of value. In recent years, during which the word physics has become a more popular, better understood term in the industry, management has become better able to analyze its own operations and to recognize for itself the foundation of physics on which so many of its processes are based. An experienced executive need know little more about physics than that it is concerned with such subjects as mechanics, heat, light, sound, electricity, etc., to understand that it must be involved in such operations as refining, sheet formation, finishing, coating, etc. However, perhaps the most important stimulus of all stems from the satisfactory work,—the constructive accomplishments of those physicists who have worked within the industry during recent years. The long-term rate of growth of physics within the industry will continue to depend largely on the quality (not quantity) of the men whom the industry will attract.

Granting that the industry is at least mildly interested in the physicist, there remain the problems of attracting qualified men to the industry, and of making the proper use of those who are hired. There is one hurdle, common to both of these problems, that makes them rather difficult. Whereas the industry can be expected to show an ever-increasing interest in the physicist, the fact remains that relatively few companies within the industry have a definite, detailed understanding of specific problems which they might legitimately assign to the physicist. That is, their interest amounts to an admission that the science should be useful in furthering their endeavors, but just *how* it is to be used is less certain. This situation is entirely normal and understandable, and is simply a way of saying that the industry is almost virgin territory for the physicist. Any industry that investigates any new field of science must face this same hurdle.

The danger in the situation is two-fold. In the first place, it may be difficult to interest the prospective physicist in the industry if he finds himself unable to determine the particulars of problems he will be asked to tackle. Physics is such a broad science, and physicists are often so specialized in both interests and training, that the *average* candidate will almost certainly shy away from a job which cannot be defined for him. For example, it is not enough to tell the average, just-out-of-school physicist that his help is needed in an investigation of the finishing operation

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on clay-coated magazine stock. On the other hand, if it can be pointed out to him that such an investigation will demand work in optics (opacity and smoothness), heat transfer, moisture control, pressure distribution within a roll nip width, and clay plasticity, then his interest will begin to blossom. If the company already possesses a physicist to participate in the interview, then the problem under discussion becomes nonexistent. However, if the company is unable to talk the language of a physicist, it must gamble on exciting his interest and properly assessing his qualifications. Then there is the second danger that, having hired a potentially successful physicist, the company will quite unintentionally jeopardize its investment in him through a failure to understand and provide the cooperation he needs for success.

In an effort to facilitate the cause of both employer and prospective physicist, there will be discussed the qualifications of the candidate who stands a good chance of stepping into this new field, unsupported, and making a success of it. Such a yard stick, while it may serve little use in interesting physicists in the industry, should help to protect the employer's position and minimize his risk when hiring his first man for this type of work.

Both physicist and employer should keep one thought uppermost in mind,—it is the key to the success of the physicist in this and most industries. *The place of physics is in process development, improvement, and control.* It is *not* in instrumentation or "gadgeteering;" such efforts may represent vital contributions to process control, for example, but they must be subordinated to the primary effort. They represent a means to an end, but can seldom be considered the end itself. "Gadgeteering" is more obvious and often more fun for the physicist. Unless properly counseled, and personally given to self-restraint, he may unwittingly give it his undivided attention, and thereby sacrifice the more difficult but more desirable goal of process development, improvement, and control.

The Problem of Interesting the Physicist in the Industry

As previously suggested, competition for the services of physicists will be keen in the postwar era. Colleges will require larger teaching staffs to carry the increased burden of physics students who will have been captivated by the romance of atom-smashing. The communications and other electronics industries will have first call on the services of a majority of the more promising, recent graduates, since the war research of so many of these younger men has been in radar and similar fields. This work has brought these men into close contact with GE, Westinghouse, Bell Laboratories, Philco, Sperry, Sylvania, and the other large industrial concerns that mass-produced the war products researched in the large government-subsidized laboratories, as well as in their own. Postwar government laboratories, operated under the direct supervision of various branches of the Army and Navy, will be larger and more numerous than in prewar days. Many smaller companies in a variety of industries, forced to change almost completely to new production fields during the war, expanded immensely and concluded their war efforts with a firm desire to continue in their new and expanded state. Their war production had the free backing of government research agencies, but they must now establish their own technical staffs in order to continue successfully. There are these and other opportunities for physicists, with all of industry anxious and able to buy research cheaply, with "tax dollars." Almost lost in the throng are the lesser known industries (to the physicist) such as pulp and paper.

The above picture may offhand appear to be discouraging, and can remain so if constructive steps are not taken by the industry to publicize its opportunities in physics. It *does* have these opportunities, and it need *not* be ashamed to compare them with those of most other industries. Rather, it must awaken to the recognition that if it indeed does want qualified physicists, it must make its needs better known and better understood.

The Desirable Qualifications of the Pulp and Paper Physicist

I. Technical Background

The pulp and paper industry is hardly one for specialists in the field of physics. After some years, when the applications of physics within the industry have been better developed and understood, there will be room for specialists. Meanwhile, the physicist should be equipped with a well-rounded, workable knowledge of the principles of statics, dynamics (particularly fluid dynamics), geometrical optics, heat, thermodynamics, rheology, and at least the rudiments of electronics. Although one can postulate far-fetched applications of nuclear physics in the industry (e.g., the study of flow currents from headbox onto the wire through the use of radioactive "tracers"), it is not apt to be an industry for the man interested primarily in nuclear research. However, the problems may easily involve as much theoretical as experimental work, so that the physicist in the industry cannot have too much background and interest in applied mathematics. Some knowledge of chemistry, particularly physical and/or colloid chemistry, is advisable but not essential if the physicist is willing to learn these subjects as necessity demands.

II. Imagination, and Ability to Analyze Problems

Above all else, the industry is interested in "practical" men. A practical man from the industry's point of view is not only one who can apply abstract physical principles to the solution of practical problems, but is also a man who can go to the roots of industry and uncover the problems which he subsequently will attempt to solve. The latter requisite involves a fertile imagination and an ability to critically analyze mill operations and the physical problems involved in them. The newness of the science to the industry places the burden of proof on the shoulders of the physicist. For some time, until management becomes as familiar with the tools of the physicist as it has with those of the chemist and the engineer, the physicist must face the responsibility of finding, as well as solving, a majority of his problems. Consequently, he can expect to spend roughly a third of his time studying operations and following trials in the mill, a third of his time critically analyzing at his desk the physics involved in these operations, and the remaining third of his time in a laboratory, attempting to do something about the problems uncovered.

Experience and inherent ability in analysis count for as much as scholastic training in this sort of work. For some men it will be fun,—stimulating and challenging; for others who prefer their problems

handed to them on a silver platter, it will be tedious drudgery. Management has an obligation to itself *and* to the physicist to thoroughly acquaint him with this picture, and to determine if he is suited for this sort of work. Industrial companies using relatively large numbers of physicists have such a wide variety of technical jobs that they are better able to place a particular man in a position which can utilize his special but perhaps limited abilities. The pulp and paper industry is not as ideally situated in this respect.

This requirement for imagination and analysis should have its attractive as well as restraining features, from the physicist's viewpoint. In an industry as yet unfamiliar with the tools of the physicist, the man who can spot and solve his own problems is considered in somewhat the light of a magician. That is, his success is all the more spectacular because there are few if any in the organization who are able to pass qualified judgment on the breadth and ingenuity of his technical contributions to the solution of a problem. For example, assume that the physicist has solved in short order a relatively easy problem which, however, is a quite important one to his company. Management can see that he has done something valuable, but its inability to comprehend *how* it was done breeds a perhaps more than justified respect for his ability. However, by the same token it is possible for a physicist to labor a year or more on a tough problem, make progress and have learned a lot, and at the same time fail to excite the interest and appreciation of a management which can judge his efforts only on the basis of the worth of the final contribution. Consequently, the physicist must be willing to gamble somewhat on his ability to consistently produce,—a willingness seldom to be found in the inexperienced man, just out of school.

There is, of course, the danger that the extremely imaginative man will become as impractical as the one who has no imagination. For example, the physicist who gets the (not so novel) idea that it's all wrong to make paper by mixing 99% water with 1% pulp fiber and then to take the water out again, and who insists on concentrating his efforts on creating a radically new process of papermaking, is riding high in a balloon to which the industry will not want to anchor.

III. Nontechnical Qualifications

It will not be necessary to spend any time discussing the nontechnical qualifications of the physicist in the pulp and paper industry as they are more or less the same as for any other responsible technical job; for example, good personality, dependability, ability to get along with fellow workers and with operation, etc. However, it might be pointed out that because the physicist in the paper industry will have to "paddle his own canoe" for some time, until he has proven his worth and has sold this "new tool" to management, he will have to have the unusual qualifications of courage, confidence in himself and determination to carry on under very discouraging conditions at times.

The Industry's Debt to the Physicist, and to Itself

Some suggestions may be advanced that should help the industry to better understand and to better cooperate with its physicists.

As has been previously suggested, the industry has the obligation to quite critically examine the qualifications of the men it is considering for posts in physics. The qualifications demanded by the industry are more severe and more numerous than those usually demanded by companies that have for years hired many physicists, and give them relatively close supervision. The training period in pulp and paper is a long one, and a proper appraisal of the candidate's qualifications may save him and the company many waste months and waste dollars. Moreover, the unfortunate experiences of a few who were never really suited for work in the industry can deter many capable men from entering the field.

Having accepted a new physicist into its ranks, the company should give him its full and complete confidence until such time as he may prove unworthy of it. The less supervision the company can offer, the more confidence it must offer the new man. He should be given a clear understanding as to how much of each he may expect. Confidence in his ability should be backed by a willingness to invest heavily in tools for his use. The equipment he demands may be expensive, and he should justify this expense in terms of the significance of the problem he is tackling. The company must also understand that the oscilloscopes, optical instruments, etc., that he requires in his work are in general more expensive than the retorts, balances, and chemicals of the chemist.

A physicist in the pulp and paper industry badly needs two assistants. He will not necessarily need them full time, but he should have first priority on their services. The more essential of these is a semitechnical man who has had years of well-rounded mill experience, at least some of which has been in the control laboratory. He should know the various operations in the mill and the key men who are responsible for them. Such a man can answer a majority of the thousands of questions the new physicist will want to ask during his first year or two, and this removes a tremendous load from the men in the mill whom he would otherwise feel obligated to bother. His helper will introduce him to mill men when it is necessary to see them, will assist him in studying inspection records, will assist him with experimental work in the laboratory, and in dozens of other capacities. Much of the young physicist's early success will be directly traceable to the cooperation of such a mill-experienced man. The second man is a mechanical designer whom the physicist will need particularly when doing instrumentation work. The background of a physicist does not usually include mechanical design, and the cleverness of his designer can easily mean the difference between a successful quality control instrument and a gadget that will not work.

The Physicist's Debt to Industry, and to His Science

The physicist's chief debt to industry is a return on industry's investment in him and his equipment. The industry does not, should not, put physicists on the dole. It understands that they must pass through an educational period during which their productive efficiency is low. It is to the physicist's advantage to keep this period as short as possible, and toward this end he should concentrate first on problems that seem likely to pay off quickly. Later, as his experience and accomplishments grow, he can place more emphasis on the longer range and possibly more important problems.

Beyond the matter of providing answers to specific

problems, the physicist owes the industry a better understanding of what physics is, what it can do, and how it does it. Only with such understanding can physics assume its proper place of importance in the industry, with a more favorable balance for the number of physicists as compared to the number of chemists and engineers.

The physicist carries the burden of proof on his own shoulders. The accomplishments of the first few dozen men in the industry will dictate the rate of progress toward the objective outlined at the start of this paper. The industry offers very worthwhile opportunities for the physicists who are willing and able to accept the challenge.

Rosin in Paper and Paperboard*

Revision of TAPPI Standard T 408 m-44.

This method covers the procedures for the qualitative and quantitative determination of rosin (colophony) in paper and paperboard. The qualitative tests indicate the presence or absence of rosin or rosin soap added as a sizing agent. The quantitative procedures give the total rosin, which consists of the natural resins in the pulp from which the paper is made plus any rosin added as sizing. Such procedures are not applicable to the determination of synthetic resins (such as the melamine and urea formaldehyde resins used to impart wet strength properties to paper). The method is limited to rosin, which is a natural vegetable resin, the residue left after distilling off the turpentine from the gum of pine or from the solvent extraction of pine stumps, knots, and top wood with subsequent separation from the extraction solvent, turpentine or pine oil, by distillation.

Note: For a further discussion, *see* ASTM "Paper and Paperboard: Characteristics, Nomenclature and Significance of Tests," p. 78 (Oct., 1944).

Qualitative Tests

A positive result obtained by both of the following procedures shall be regarded as conclusive evidence of the presence of rosin or rosin soap added as a sizing material.

Lieberman-Storch Test

Place about 1 gram of the paper, cut into small pieces, in a clean, dry test tube. Add 5 ml. of C.P. acetic anhydride and boil down to about 1 ml. (*Caution*—The fumes of the anhydride are very irritating and should be burned as they leave the mouth of the test tube.) Pour the liquid residue into a clean, dry porcelain crucible and cool to room temperature or lower. If any waxy particles separate out, they should be filtered off on a dry filter paper. Add carefully, down the side of the crucible, 1 drop of conc. sulphuric acid. A fugitive, rose-violet coloration formed where the acid meets the anhydride indicates rosin.

Raspail Test

Place the paper on a glass or porcelain plate and apply a drop of a nearly saturated solution of sugar. After a few moments remove the excess sugar solution with filter paper. Add a drop of conc. H_2SO_4 to the sugar on the paper. A raspberry-red coloration indicates the presence of rosin.

Quantitative Determination

The method for the determination of rosin depends upon the conversion of insoluble resinates to alcohol-soluble rosin by the action of a strong, volatile acid of a definite concentration for a definite length of time. Thus, a minimum of nonresinous material, such as cellulose hydrolysis products, is formed. Separation of the resinous from the nonresinous materials is accomplished by dissolving out the rosin from the dried extract with anhydrous ether, in which nonresinous materials, including starches and glues, are insoluble. If waxes and fats, which may dissolve in the anhydrous ether, are present, they must be separated from the resinous material by saponification. For further details consult the original literature *(1)*.

If the presence or absence of mineral matter which reacts with hydrochloric acid or is dissolved by it and of paraffin or similar wax in the paper under test is not definitely known, qualitative tests for them should be made, as their respective absences permit the omission of certain steps in the procedure.

Apparatus

A suitable extraction apparatus, such as the Soxhlet or Underwriters', is required.

Reagent

Extracting Solvent. To 1 liter of 95% ethyl alcohol add 4 ml. of conc. HCl and mix.

Test Specimen

The test specimen shall consist of strips about 0.25 by 1.6 inches (6×40 mm.). It should not be ground, for more nonresinous materials are then extracted. The strips shall be cut from the sample in such a way as to be thoroughly representative of it.

Note: The time of extraction specified below may not be sufficient for certain heavy types of paperboard such as container board, pressboard, binders' board, and pasted board. With thick materials, therefore, it is advisable whenever possible to split the strips into thinner ones after they have been weighed.

Procedure

With the specimen strips in moisture equilibrium with the atmosphere of the balance, weigh out 5 to 7 grams of strips to the nearest 10 mg. Immediately thereafter weigh out test specimens for the moisture determination, which shall be made according to TAPPI Standard T 412 m. (If the paper contains paraffin or similar wax, or oil, it may not be practicable to determine moisture. In such cases the moisture determination may be omitted.)

If mineral matter reacting with, or dissolved by, hydrochloric acid is present, immerse the test specimen for the rosin determination in approximately normal aqueous HCl for 5 minutes, drain off the acid solution, wash the specimen free from acid with tap water followed by distilled water, and dry at room temperature. If acid-reactive or acid-soluble mineral matter is absent, omit this preliminary acid treatment.

* This revision has been approved by the Chemical Methods Committee. Criticisms are earnestly requested and should be sent to R. G. Macdonald, Secretary, Technical Association of the Pulp and Paper Industry, 122 E. 42nd St., New York 17, N. Y. Reprints of this standard may be obtained from the Secretary at 25 cents each.

Place the strips lengthwise in the syphon cup of the extractor, taking care to avoid packing them together tightly. For the extraction use about 2 to 2.5 times the volume of solvent required to fill the syphon cup. Extract at a rate of 15 syphonings per hour (which should yield a volume of about 250 ml. of solvent distilled per hour) for a period of 2 hours for uncoated or nonsurface-sized papers and 2.5 hours for coated or surface-sized papers. The extraction should not be continued much longer than specified.

Note: There is a possibility of the presence of materials other than rosin which might be extracted and therefore would be included and reported as rosin.

When the extraction period is completed, evaporate off the solvent in the flask on the steam bath until the odors of alcohol and HCl are no longer noticeable. Place the flask in an oven at 100 to 105°C. for 15 minutes, cool to room temperature and add 20 ml. of anhydrous ether. The rosin dissolves in from 5 to 30 seconds, but if covered by foreign material it must be uncovered by scraping the mass with a stirring rod. After standing 15 to 20 minutes to further the coagulation and settling out of the foreign matter if necessary, filter the ether solution with suction through a fine-pore filter paper cut to fit a Gooch crucible, directly into a weighed beaker. It is usually necessary to refilter the filtered solution through the same paper. Another 20-ml. portion of ether is used for rinsing, adding the rinsing to the solution in the weighed container. Evaporate the ether, then dry in an oven at 100 to 105°C. for 15 minutes and weigh to the nearest 1 mg. Repeat drying and weighing until the weight is constant to ± 1 mg.

If paraffin or similar waxes are present after weighing the container plus rosin and wax, add about 25 ml. of approximately 0.5 *N* alcoholic KOH solution, heat to not over 60°C. for 15 minutes, cool to room temperature, and transfer to a separatory funnel. Wash the beaker with about 25 ml. of ether and then with about 50 ml. of water, adding all washings to the separatory funnel. Add sufficient water or ether, or both, so that the funnel contains about 25 ml. of ether and 150 ml. of water. Shake the funnel well, add about 2 grams of NaCl, shake the funnel once more, and allow separation of the liquids. Draw off the water solution into another separatory funnel and wash with 25 ml. of ether. Drain the two ether solutions into a weighed beaker, wash both funnels with about 20 ml. of ether, adding the washings to the beaker, and evaporate the ether. Dry the container and residue at 100 to 105°C. (*see* note) for 15 minutes and weigh to the nearest 1 mg. Repeat the drying and weighing until weight is constant to ± 1 mg. The material thus obtained will be paraffin or similar wax, plus the unsaponifiable material from the rosin, which, for most purposes and in the absence of definite knowledge regarding the particular rosin in the paper under test, may be assumed to be 5% of the rosin in the paper. To obtain the weight of the rosin, therefore, divide the weight of the combined rosin and wax, less the weight of the wax, by 0.95.

Note: If the paper contains waxes or oil volatile at 100 to 105° C. and it is not practicable to dry the residue at a lower temperature, the rosin should be separated from the oil by saponification, and determined directly, as prescribed in the following alternative method.

ALTERNATIVE TREATMENT OF ROSIN-WAX EXTRACT WHERE A DIRECT DETERMINATION OF THE ROSIN IS DESIRED.

Wash the weighed rosin-wax residue obtained from the alcohol-extracted paper into a wide-mouthed flask, using about 25 ml. of ether. Add about 25 ml. of approximately 0.5 *N* alcoholic KOH and about 100 ml. of water. Heat the contents of the flask to boiling under a reflux condenser for 30 minutes, cool to room temperature, add about 25 ml. of ether, transfer to a separatory funnel, and wash the flask first with water and then with ether, adding the washings to the funnel. Add about 2 grams of NaCl to the separatory funnel, shake well and let the liquids separate. Draw off the water solution into a beaker. Add 50 ml. of water and about 2 grams of NaCl to the ether solution in the separatory funnel, shake well, allow separation of the two liquids and draw off the water solution, adding it to the first one obtained. Add to the combined water solutions 2 drops of methyl orange indicator solution, then carefully acidify by adding 5 *N* H_2SO_4 until the solution is definitely pink, and then add 1 ml. more of the acid. Cool the solution to room temperature, transfer to a separatory funnel, add 25 ml. of ether, and wash the beaker with about 10 ml. of ether, adding the washings to the funnel. Add about 5 grams of NaCl, shake the funnel well, allow separation of the liquids, draw off the water solution into another separatory funnel, and wash it twice more, using about 20 ml. of ether each time. Transfer all ether solutions to a weighed beaker, washing all containers with ether. Evaporate the ether, dry in an oven at 100 to 105°C. for 1 hour and weigh to the nearest 1 mg. Repeat the drying and weighing until weight is constant to ± 1 mg. The weight of the rosin thus found is assumed to be 95% of that in the paper.

Note: If the paper contains saponifiable fats or greases in addition to rosin, the alternative method described above will give results higher than the true rosin content, as they will be included with it. In this case, the analyst may apply such modifications to the method as are considered justifiable and the report should state what modifications of the standard method were used.

Report

The result of the rosin determination shall be expressed to the nearest 0.1 as a percentage by weight of the paper dried at 100 to 105°C. wherever practicable. When this is not practicable, it shall be as a percentage of the paper as received or air-dry, and the report shall so state.

The report shall be the average of at least two determinations. The percentage results of duplicate determinations should agree within 0.2.

Literature Cited

1. Launer, H. F., "Simplified Determination of Resin in Papers and Pulps," *J. Research Natl. Bur. Standards* 18, No. 2 (Feb., 1937), *Res. Paper* RP973.

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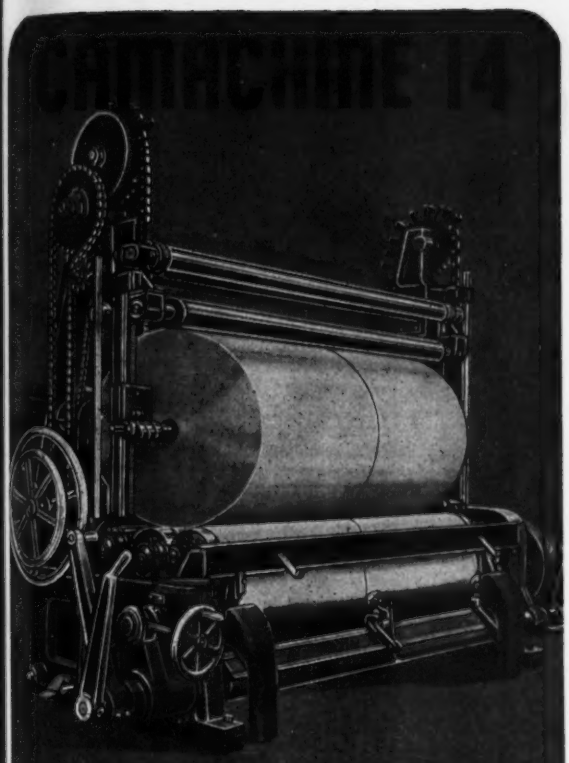
Sammet, C. F., "Quantitative Determination of Rosin in Paper," *Ind. Eng. Chem.* 5: 732 (Sept., 1913); *Paper* 13, No. 1: 17 (Sept., 1913).

Sutermeister, E., and Torrey, W. V., "The Determination of Rosin in Paper," *Paper Trade J.* 94, No. 3: 33 (Jan. 21, 1932).

TAPPI Notes

Ingmar Jaatinen is now chief engineer for Wartsila-Cellulosa A/B, Aanekoski, Finland.

The TAPPI Delaware Valley Section will meet at the Engineers Club, Philadelphia, Pa., on Friday, May 3rd. George Cramer of Sinclair & Valentine, Inc., New York, will talk on "The Relationship of Lead to Various Types of Graphic Arts Processes and to Papers Related Thereto." This meeting is being sponsored by the TAPPI Graphic Arts Committee and the Philadelphia Chapter of the International Association of Printing House Craftsmen will be guests of the Section and the Committee.



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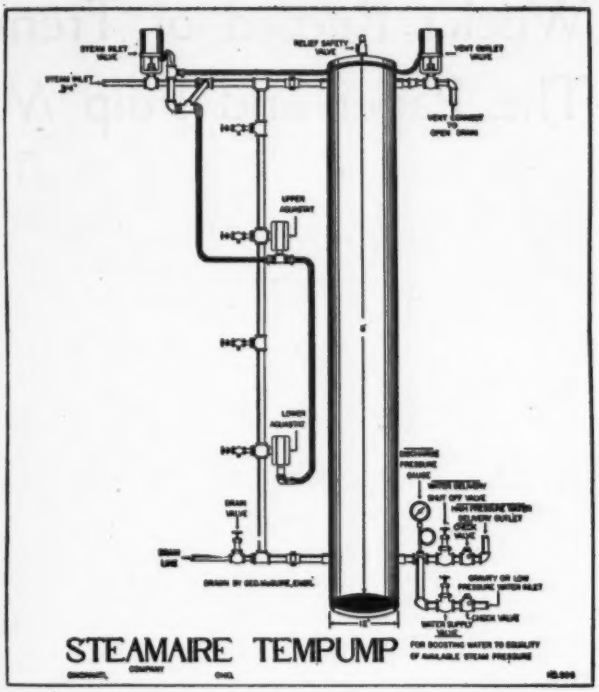

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Week's Record of Trends in The Paper and Pulp Market

Office of the PAPER TRADE JOURNAL,
Wednesday, April 24, 1946.

Paper and paperboard production levels are the highest in four years despite present difficulties in pulpwood and pulp supplies. While demand for all major types of paper continues to exceed supplies, the over-all supply is improving at a faster rate than might be expected, considering the troubles encountered with raw materials.

Paper production for March and April has been maintained at well over 100 percent of capacity. Paperboard operations have also improved over last year's levels, reaching 100 percent of capacity several times since March 16.

The prospect of a steady improvement in the supply situation continues favorable even with the slow return movement of labor to the industry. One serious obstacle still blocks the improvement of paperboard supplies. While proportionately greater quantities of pulp go into the production of paper, demand for paperboard for use in the housing program, consumer goods, and containers is reaching record peaks with no commensurate increase possible in the production of paperboard.

The index of general business activity for the week ended April 13 declined to 126.7 from 127.3 in the previous week, compared with 142.6 for the corresponding week in 1945. The index of paperboard production rose to 168.3, compared with 162.9 in the previous week, and with 157.7 for the corresponding week in 1945.

Paper production for the week ended April 13 was estimated at 103.6 percent, compared with 104.1 for the preceding week, with 87.4 for the corresponding week in 1945, with 84.7 for 1944, with 89.3 for 1943, and with 100.8 percent for the corresponding week in 1942.

Paperboard production for the week ended April 13 was 101.0 percent, compared with 99.0 for the preceding week, with 97.0 for the corresponding week in 1945, with 92.0 for 1944, with 96.0 for 1943, and with 94.0 percent for the corresponding week in 1942.

Wood Pulp

New ceiling increases applying to both domestic and imported wood pulp became effective April 22. While preliminary announcements indicated an over-all increase of $3 to $12.50 per ton, paper and board making grades of wood pulp have only increased $3 to $9 per ton.

The new increases are as follows:

$9 per ton, southern bleached sulphate.

$8 per ton, bleached and unbleached sulphite.

$4 per ton, southern kraft.

$3 per ton, northern kraft.

In addition, mills will absorb $1 less on the freight shipments of domestic and western Canadian brands, absorb $2 less on deliveries from eastern Canadian mills and $3 less on pulp from overseas. This means that Scandinavian shippers may add to the delivered price all freight above $4 per ton from seaboard.

The increased prices were well received by the trade, but some doubt has been expressed as to its present value to Scandinavian mills who are said to be very short on coal.

Some domestic mills claim that even with the new prices they must remain subsidized. If such subsidy is discontinued it might affect wood pulp production.

Rags

Demand for practically all grades of cotton cuttings remains strong this week. Dealer bids are high at ceiling levels.

Price ceilings on foreign cuttings may soon be removed, which would enable importers to obtain available supplies of foreign cotton cuttings, and thus increase supplies to fine paper mills.

Old Rope and Bagging

Market steady for Manila rope, with other fibers in fair demand. Sisal is in better demand at the 4.75c ceiling. Soft jute is currently 5 to 5.50c, and hard jute 3.75 to 4c. Manila still brings 5.75c.

Improvement in the demand for scrap bagging is reported in some quarters. Prices are firmer. Supplies are limited and increased demands may result in higher levels in scrap and gunny.

Waste Paper

Demand continues active for most grades of waste paper this week. Old corrugated and news are most plentiful, with mixed paper remaining scarce. Ceiling prices still prevail even for grades on the quiet side, indicating that mills are not neglecting their inventories.

Treasury to Open Bids On Paper for Currency

WASHINGTON — The Treasury Department will receive bids on May 15 for furnishing distinctive paper required for printing currency and public debt securities.

The estimated quantity of paper required for currency is 92,500,000 sheets or about 1,117 tons and for public debt securities 19,400,000 sheets or about 364 tons.

Wisconsin Mills Used 1½ Million Cords

APPLETON, Wis. — Wood products valued at $21,542,000 were cut or sold from Wisconsin woodlots from July, 1944, to June, 1945, according to a survey made by the Wisconsin Crop Reporting Service. The report, the first of its kind ever made, reveals that there are about 3,400,000 acres of woodland on farms in the state, or about 15 per cent of the farm area.

Wood cut for fuel represented the largest contribution of the farm woodlot. Nearly 1,635,000 cords were cut, with a value of $17,806,812. Logs cut for lumber ranked second. They amounted to about 37,000,000 board feet and they were valued at $1,255,852.

Pulpwood ranked third in value among woodlot products with a total of $898,892, representing 86,889 cords. This represents only a small part of the pulpwood used by Wisconsin paper mills, which totals about 1½ million cords a year. Leading pulpwood counties are Bayfield, 8,950 cords; Marathon, 5,766, and Price, 5,670. Railroad ties and fence posts made up most of the remainder of the woodlots yield.

Casein Output Continues To Lag in February

WASHINGTON, D. C. — Following a sharp seasonal gain from January to February, dry casein production in February was 535,000 pounds, still 25 per cent less than that of a year earlier, the Bureau of Agricultural Economics reports. February production was 77 per cent less than the 1940-44 average and the lowest of record for the month since 1922. The seasonal gain over January, however, was 34 per cent this year, compared with seven per cent last year, and an average of six per cent during 1940-44.

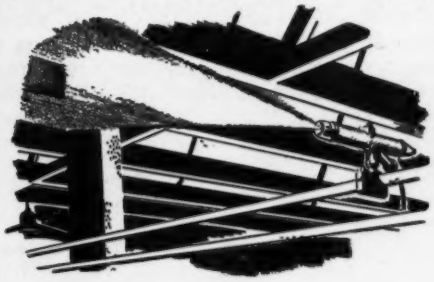
Stocks of casein in the hands of driers on February 28 were 2,600,000 pounds compared with 2,850,000 pounds a year earlier, a decrease of nine per cent. Stocks declined nearly a million pounds during February. During the same month in 1945, however, they declined only one-third of that amount.

The domestic ceiling price for casein is 24 cents per pound f.o.b. plant in carlots. In less than carlots, the ceiling price is 24¾ cents f.o.b. plant.

52-Year Veteran Retires At Gilbert Paper Plant

MENASHA, Wis.—George Rank has retired after 52 years of continuous service with the Gilbert Paper Company, Menasha. He started work as a paper machine third hand on March 15, 1894. Since 1925 he has been oiler for all the paper machines of the mill. Two years ago, on his fiftieth anniversary of service, he was honored at a testimonial dinner by company officials, foremen and 40-year employes of the company. He was presented at that time with a $500 war bond.

Mist FOR GOOD AND EVIL



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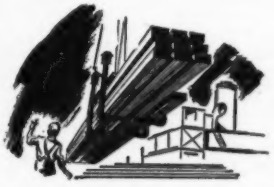

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Steamed Chips.
Semi-Chemically Cooked Chips.

Extracted Chestnut Chips.
Extracted Pine Stump Chips.

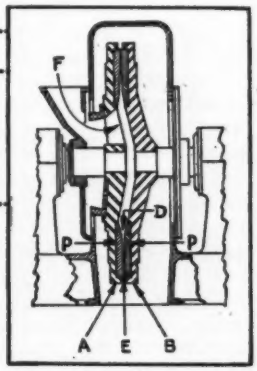
Groundwood Bull Screen Rejects
Groundwood Knotter Screen Rejects
Groundwood Fine Screen Rejects

Kraft Knotter Rejects
Kraft Screen Rejects

Sulphite Screen Rejects

Waste Printed Papers; Ledgers
Waste Wet Strength Papers
Waste Corrugated Papers
Waste Papers in General

Bagasse Fiber
Licorice Root Fiber
Bamboo Fiber



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MISCELLANEOUS MARKETS

Office of the PAPER TRADE JOURNAL,
Wednesday, April 24, 1946.

BLANC FIXE—Quotations on blanc fixe continue unchanged. Demand is reported fair. The pulp is currently quoted at $40 per ton, in barrels, at works; the powder is currently quoted at $60 per ton, f.o.b. works.

BLEACHING POWDER—Demand continues active. Supply situation is reported favorable at this date. Quotations are unchanged. Prices on bleaching powder range from $2.50 to $3.10 per 100 pounds, in drums, car lots, at works.

CASEIN—OPA maximum prices on processed acid-precipitated casein are as follows: 10,000 pounds or more, 24 cents per pound; 2,000 pounds, 24¼ cents per pound; less than 2,000 pounds, 24¾ cents per pound, f.o.b. shipping point. Imported, currently above ceiling prices.

CAUSTIC SODA—Demand very heavy. Production large, but deliveries slow. Market tight. Supply of drums short. Solid caustic soda is quoted at $2.30 per 100 pounds; flaked and ground is quoted at $2.70 per 100 pounds.

CHINA CLAY—Moderate demand reported. Quotations remain unchanged. Supply short. Domestic filler clay is currently quoted at from $7.50 to $15 per ton; coating clay is quoted at from $12 to $22 per ton, at mine. Imported clay is quoted at from $13 to $25 per long ton, ship side.

CHLORINE—Demand heavy with essential paper requirements fully met. Quotations unchanged. Chlorine is currently quoted at $1.75 per 100 pounds, in single unit tank cars, f.o.b. works.

ROSIN—No offerings and sales. "G" gum rosin is quoted at $6.74 per 100 pounds, in barrels, at Savannah; "FF" rosin at $6.70 per 100 pounds in barrels, at New York; seventy per cent gum rosin size at $6.95 per 100 pounds, f.o.b. works.

SALT CAKE—Prices on salt cake are reported unchanged for the current week. Current demand is relatively heavy. Domestic salt cake is quoted at $15 per ton, in bulk. Chrome salt cake is quoted at $16 per ton. All prices in car lots, f.o.b. shipping point.

SODA ASH—Heavy demand continues for all-over requirements. Market remains tight with demand above output. Bulk lot shipments steady. Bagged lots still slow. Quotations continue unchanged. Current prices, car lots, per 100 pounds, are as follows: in bulk, $.95; in paper bags, $1.05; and in barrels, $1.35.

STARCH—Corn market restricted due to small supply. Prices steady. Starch prices continue unchanged. The pearl grade is quoted at $3.72 per 100 pounds; powdered starch at $3.83 per 100 pounds; all prices in bags, car lots, f.o.b. Chicago.

SULPHATE OF ALUMINA — Demand reported steady. Supply situation improving. Quotations continue unchanged. The commercial grades are quoted at from $1.15 to $1.25 per 100 pounds, in bags, car lots, f.o.b. works. The iron free is currently quoted at $1.75 per 100 pounds, in bags, at works.

SULPHUR—Quotations on sulphur continue to conform to prevailing market prices. Demand active. Annual contracts are quoted at $16 per long ton, f.o.b. mines; the price at Gulf Ports is $17.50 per long ton.

TALC—Prices on talc continue unchanged. Demand good. Domestic grades are currently quoted at from $16 to $30 per ton at mines; Canadian at $24 to $30 per ton. All prices in car lots.

MARKET QUOTATIONS

All market quotations, excepting those otherwise designated as official OPA maximum prices, are based on the manufacturers' price level as of October 1-15, 1941; maximum wholesale prices are based on the merchants' maximum prices for stipulated quantities at a quoted price to all customers of a like class, as shown by the merchant's sales records of goods delivered during March, 1942. A merchant's price list in effect in March 1942, showing quotations of actual shipments, will establish the current maximum prices.

Paper

(Delivered New York)

Standard News, per ton—			
Roll, contract	*$67.00	@	—
Sheets	75.00	@	—

* OPA Maximum Price.

Kraft—per cwt.—Carload Quantities Zone A, Delivered			
Superstandard Wrapping	*$5.25	@	—
No. 1 Wrapping	*5.00	"	—
Standard Wrapping	*4.75	"	—
Standard Bag	*4.375	"	—

* OPA Manufacturers' Prices.

Tissues—Per Ream—Carlots			
White No. 1	1.12½	"	—
White No. 1 M. G.	1.10	"	—
White No. 1½	1.00	"	—
White No. 2	.90	"	—
Anti-Tarnish M.F.	1.20	"	—
Colored	—	"	—
Kraft	.95	"	—
Manila	.90	"	—

Toilet—1 M. Sheets—Per Case			
Unbleached	4.25	"	—
Bleached	5.70	"	—
Unbl. Toilet, 1 M.	4.16	"	—
Bleached Toilet	5.70	"	—

Paper Towels, Per Case—			
Unbleached, Jr.	2.20	"	—
Bleached, Jr.	3.20	"	—

Manila—per cwt.—C. l. f. a.			
No. 1 Jute	11.25	@	—
No. 1 Manila 35 lb.	6.00	"	7.00

Boards, per ton—			
News	*$54.00	@	—
Chip	*54.00	@	—
Sgl. Mla. Ll. Chip	*65.00	@	—
White Pat. Coated	*79.00	@	—
Kraft Liners 50 lb.	*74.00	"	—
Binders Boards	84.00	"	116.00

* OPA Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following are representative of distributors' resale prices:

Rag Content Bonds and Ledgers—White, Assorted Items Delivered in Zone 1:

	Bonds	Ledgers
100% Rag Ext. No. 1	$39.10@$46.90	$40.25@$47.25
100% Rag	32.20 " 37.75	33.35 " 39.25
85% Rag	.... "	29.90 " 35.00
75% Rag	23.00 " 27.00	24.15 " 28.25
65% Rag	.... "	22.80 " 27.75
50% Rag	18.70 " 22.75	19.90 " 24.25
25% Rag	16.40 " 20.00	17.55 " 21.50

Colors at $1.00 cwt. extra.

Sulphite Bonds and Ledgers—White, Assorted Items Delivered in Zone 1:

	Bonds	Ledgers
No. 1	$10.55@$12.75	$11.70@$14.25
No. 2	9.65 " 11.73	10.80 " 13.25
No. 3	9.20 " 11.25	10.35 " 12.50
No. 4	8.90 " 10.75	10.05 " 12.25

Colors $1.00 cwt. extra.

Free Sheet Book Papers—White, Cased Paper Delivered in Zone 1:

No. 1 Glossy Coated	$13.65	@	$15.50
No. 2 Glossy Coated	12.40	"	14.00
No. 3 Glossy Coated	11.60	"	13.35
No. 4 Glossy Coated	11.15	"	12.75
No. 1 Antique (watermarked)	10.25	"	11.75
No. 2 Offset	9.60	"	11.00
A Grade E. F.	9.35	"	10.75
A Grade S. & S. C.	9.00	"	11.00
B Grade E. F.	8.85	"	10.25
B Grade S. C.	9.10	"	10.50
C Grade E. F.	8.55	"	9.75
C Grade S. C.	8.80	"	10.00
D Grade E. F.	8.25	"	9.50
D Grade S. & S. C.	8.50	"	9.75

Ivory & India at $.50 cwt. extra.

Wood Pulp

OPA Maximum Prices and Canadian Manufacturers' Prices, Less Freight. Not Exceeding OPA Allowances.

Bl. Softwood Sulphite	$86.00
Unbl. Softwood Sulphite	74.00
Bl. Hardwood Sulphite	83.50
Unbl. Hardwood Sulphite	71.50
Bl. Mitscherlich	81.00
Unbl. Mitscherlich 72.00	@ 82.00
N. Bleached Sulphate	86.00
S. Bleached Sulphate	79.00
N. Semi-Bleached Sulphate	82.00
S. Semi-Bleached Sulphate	75.00
N. Unbl. Sulphate	72.00
S. Unbl. Sulphate	69.50
Bl. Soda	76.00
Unbl. Soda	72.00
Groundwood	50.00

Transportation Allowances

Applying to Producers of Wet Wood Pulp.

	Below 50% Air Dry Weight
Northeast	$13.50
Lake Central	13.50
Southern	16.00
West Coast (in area)	10.50
West Coast (out area)	16.50

	50%-80% Air Dry Weight
Northeast	$11.50
Lake Central	11.50
Southern	14.00
West Coast (in area)	9.50
West Coast (out area)	15.50

Applying to Producers of Dry Wood Pulp.

	Above 80% Air Dry Weight
Northeast	$8.50
Lake Central	8.50
Southern	11.00
West Coast (in area)	7.50
West Coast (out area)	13.50

Should freight charges actually exceed these allowances, the difference may be added to the maximum prices.

Domestic Rags

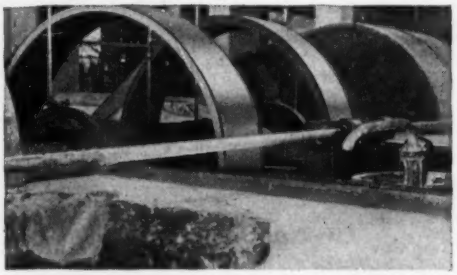
New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—			
New White, No. 1	6.50	@	7.25*
Silesias No. 1	—	"	5.75*
New Unbleached	6.75	"	7.50*
Blue Overall	—	"	5.50*
Fancy	—	"	3.50*
Washables	—	"	3.00*
Bleached Khaki Cuttings	—	"	4.25*
Unbleached Khaki Cuttings	—	"	3.50*

* OPA Maximum Prices.

...the belt to install where dampness is a factor



In paper and pulp mills, where hot, humid conditions are encountered, Tannate Leather Belting maintains a high operating efficiency . . . carries full load even when very damp. These advantages result because Tannate leather is moisture resistant and is made with waterproof cement.

Further, it withstands machine oils and many weak chemicals. It is strong and flexible and has an exceptional pulley grip.

Rhoads Engineering Service has helped many mills with their difficult drives. Let us help you.

Tannate Leather Belting is available for prompt delivery.

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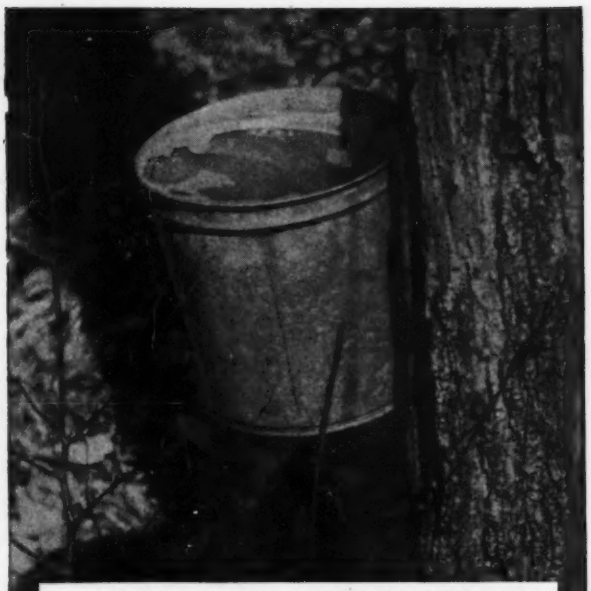

YOU CAN'T POUR LOST SYRUP ON A PANCAKE!

Between the tree and the table there are many places where syrup is lost . . . leaky valves and pumps for instance. The losses of liquids or gases escaping past improper packing is enough . . . but the *lost production* due to needless shut-downs for the replacement of faulty packing is downright costly! That's why particular care should be exercised in the selection of the *right* packing for every application.

USE THE *RIGHT* PACKING!

PALMETTO makes the *right* packing for every one of your applications . . . the right quality for most economical maintenance . . . the right design for most effective sealing—with least wear to rods, shafts and stems.

Write today for bulletins which show *what* packings to use *where*.

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Plants at New York, N. Y. and North Wales, Pa.
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PALMETTO PALMETTO for steam, water, air. PELRO for oils. CUTNO for alkalis. SUPER-CUTNO (blue asbestos) for acids. KLERO for foods.

Self-Lubricating **PACKINGS**

Old Rags

White, No. 1—			
Repacked	*2.80	@	—
Miscellaneous	*3.20	"	—
White, No. 2—			
Repacked	*2.90	"	—
Miscellaneous	*2.65	"	—
Thirds and Blues—			
Repacked	*2.20	"	—
Miscellaneous	*1.30	"	—
Roofing Rags—			
No. 1	*1.55	"	—
No. 2	*1.45	"	—
No. 3 (bagging)	*1.35	"	—
No. 4	*1.35	"	—
No. 5A	*1.35	"	—
Old Manila Rope	5.75	"	—

* OPA Maximum Prices.

Foreign Rags

Pre-War Quotations
All Prices Nominal

New Rags

New Dark Cuttings	2.25	@	2.40
New Mixed Cuttings	2.00	"	2.20
New Light Silesias	5.50	"	5.75
Light Flannelettes	5.50	"	5.75
New White Cuttings	7.00	"	7.50
New Light Oxfords	4.00	"	4.50
New Light Prints	3.00	"	3.25

Old Rags

No. 1 White Linens	7.50	"	8.50
No. 2 White Linens	6.50	"	7.50
No. 3 White Linens	4.50	"	—
No. 4 White Linens	2.25	"	3.25
No. 1 White Cotton	4.25	"	4.75
No. 2 White Cotton	3.25	"	3.75
No. 3 White Cotton	2.50	"	3.00
No. 4 White Cotton	1.90	"	2.20
Extra Light Prints	2.00	"	2.40
Ord. Light Prints	1.75	"	2.15
Med. Light Prints	1.55	"	1.95
Dutch Blue Cottons	2.25	"	2.50
French Blue Linens	3.00	"	—
Checks and Blues	2.00	"	—
Linsey Garments	1.90	"	2.00
Dark Cottons	1.50	"	1.60
Old Shopperies	1.30	"	1.45
New Shopperies	1.45	"	1.50
French Blues	2.25	"	2.50

BAGGING

(Prices to Mill, f. o. b. N. Y.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.25	@	3.30
Wool Tares, light	3.25	"	3.50
Wool Tares, heavy	3.50	"	3.75
Bright Bagging	3.25	"	3.50
Manila Rope—			
Foreign	—	"	—
Domestic	*5.25	"	—
Jute Threads	5.50	"	—
No. 1 Sisal Strings	*4.00	"	—
Mixed Strings	1.50	"	—

* OPA Maximum Prices.

Old Waste Papers

(F. o. b. New York)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Envelope Cuts	3.12½	"	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, one cut	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Mixed Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
Mixed Groundwood Colored Shavings	.90	"	—
Overissue Magazines	1.67½	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Mixed Books	1.10	"	—
No. 1 White Ledger	2.30	"	—
No. 2 Mixed Ledger, colored	2.00	"	—
New Manila Envelope Cuttings, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
Extra Manilas	1.95	"	—
Mixed Kraft, Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
Triple Sorted, No. 1 Brown Soft Kraft	2.50	"	—
New 100% Kraft Corrugated Cuttings	2.25	"	—
No. 1 Assorted Old Kraft	1.75	"	—
New Jute Corrugated Cuttings	.90	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Box Board Cuttings	.72½	"	—
White Blank News	1.65	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
Old Corrugated Containers	.82½	"	—
Mill Wrappers	1.10	"	—

Twines

All Prices Nominal

(F. o. b. Mill)

(Soft Fiber)

Coarse Polished—			
India	.21	@	—
White Hemp	.21	"	—
Fine Polished—			
Fine India	.26	"	—
Unpolished—			
Box	.17¼	"	—
Paper Makers	.19	"	—
Tube Rope	.19	"	—
Wall Paper	.20½	"	—
Wrapping	.23	"	—
Soft Fiber Rope	.19	"	—
Cotton	.25	"	—

(Hard Fiber)

Medium Java	.18	"	—
Mex. Sisal	.16	"	—
Manila	—	"	—

PHILADELPHIA

Domestic Rags (New)

(Price to Mill)

Shirt Cuttings—			
New White No. 1	.07¼		
New White No. 2	.05¾		
Light Silesias	.05¾		
Black Silesias, soft	.03¾		
New Unbleached	.07½		
Washable Prints	.04¾		
Washable No. 1	.03		
Blue Overall	.05½		
Cottons—According to grades—			
Washable Shredding	.01¾		
Fancy Percales	.04¾		
New Black Soft	.03¾		
Khaki Cuttings—			
Unbleachable Cotton Cuttings	.03½		
Bleachable Cotton Cuttings	.04¼		
Men's Corduroy	.03½		
Ladies' Corduroy	.03		
Cottonades	.03¾		

Domestic Rags (Old)

White No. 1—Repacked	3.80	@	—
Miscellaneous No. 1	3.20	"	—
Miscellaneous No. 2	2.65	"	—
White No. 2—Repacked	2.90	"	—
Thirds and Blues—			
Miscellaneous	1.80	"	—
Repacked	2.20	"	—
Black Stockings—			
(Export)	Nominal		
Roofing Stock—			
Foreign No. 1	Nominal		
Domestic No. 1	1.55	"	—
Domestic No. 2	1.45	"	—
Roofing Bagging	1.35	"	—
Old Manila Rope	5.75	"	—

Bagging

(F. o. b. Phila.)

Gunny No. 1—			
Foreign	Nominal		
Domestic	3.00	@	3.50
No. 1 Clean Bright—Sisal Strings	.04	"	—
No. 2 Clean Bright—Sisal Strings	.03	"	—
Sisal Jute	.02½	"	.02¾
Scrap—			
No. 1	3.25	"	3.50
No. 2	1.75	"	1.80
Wool Tares, heavy	4.00	"	4.25
No. 1 New Light Burlap	3.00	"	4.00
New Burlap Cuttings	3.75	"	4.00

Old Papers

(F. o. b. Phila.)

OPA Maximum Prices, Baled

No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
Soft White Shavings, one cut	2.50	"	—
White Blank News	1.65	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
Overissue Magazines	1.67½	"	—
New Manila Envelope Cuttings	2.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Box Board Cuttings	.72½	"	—
Kraft Corrugated Cuttings	2.25	"	—
Old Corrugated Containers	1.40	"	—
Overissue News	1.00	"	—
No. 1 News	1.00	"	—

BOSTON

Old Papers

(F. o. b. Boston)

OPA Maximum Prices, Baled

No. 1 Hard White Shavings, unruled	2.87½	@	—
No. 1 Hard White Shavings, ruled	2.50	"	—
Soft White Shavings, Misc.	2.15	"	—
No. 1 Fly Leaf Shavings	1.67½	"	—
No. 2 Fly Leaf Shavings	1.12½	"	—
No. 1 Groundwood Fly Leaf Shavings	1.25	"	—
No. 2 Groundwood Fly Leaf Shavings	.90	"	—
Mixed Colored Shavings	.75	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
Hard White Envelope Cuts, one cut	3.37½	"	—
Triple Sorted No. 1 Brown Soft Kraft	2.50	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
Kraft Envelope Cuttings	3.25	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
New Manila Envelope Cuts, one cut	2.87½	"	—
New Manila Envelope Cuttings	2.65	"	—
White and Colored Tabulating Cards	2.25	"	—
Ground Wood Tabulating Cards	1.35	"	—
White Blank News	1.65	"	—
No. 1 Assorted Old Kraft	1.75	"	—
No. 1 Mixed Paper	.95	"	—
Overissue News	1.10	"	—
Box Board Cuttings	.72½	"	—
New Corrugated Cuttings, Kraft	2.25	"	—
Old 100% Kraft Corrugated Containers	1.75	"	—
Old Corrugated Containers	1.40	"	—
Jute Corrugated Cuttings	1.07½	"	—

Bagging

(F. o. b. Boston)

Gunny Bagging—			
Foreign	(nominal)		
Domestic	2.75	@	2.90
Sisal Rope No. 1	*4.75	"	—
Sisal Rope No. 2	* —	"	4.00
Mixed Rope	1.60	"	—
Transmission Rope—			
Foreign	(nominal)		
Domestic	2.75	"	3.00
Manila Rope—			
Foreign	(nominal)		
Domestic	5.75	"	—
Soft Jute Rope	4.50	"	5.00
Jute Carpet Threads	3.00	"	3.50
Bleachery Burlap	8.50	"	9.00
Scrap Burlap—			
Foreign	(nominal)		
Domestic	3.00	"	3.25
South America	—	"	3.25
Wool Tares—			
Foreign	(nominal)		
Domestic	4.25	"	—
Aust. Wool Pouches	—	"	3.65
New Zealand Wool Pouches	—	"	3.50
New Burlap Cuttings	4.75	"	5.00
Heavy Baling Bagging	4.00	"	4.25
Paper Mill Bagging	3.50	"	3.80
No. 2 Roofing Bagging	1.35	"	—

* OPA Maximum Prices.

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—			
New Light Prints	.04½	@	.04¾
Fancy Percales	.04¾	"	.05
New White No. 1	.06¾	"	.07
New Light Flannelettes	.05½	"	.06
Canton Flannels, Bleached	.06	"	.06¼
Underwear Cutters, Bleached	.06¾	"	.04¼
Underwear Cutters, Unbleached	.05¾	"	.06
Silesias No. 1	.06	"	.06¼
New Black Silesias	.03	"	.03½
Red Cotton Cuttings	.03½	"	.04
Soft Unbleached	.06½	"	.06¾
Blue Cheviots	.05½	"	.06
Fancy	.02¾	"	—
Washable	.02¾	"	—
Khaki Cuttings	.02¾	"	.03
O. D. Khaki	.03½	"	.03½
Corduroy	.03½	"	.03½
New Canvas	.06¼	"	.06½
B. V. D. Cuttings	.06¾	"	.06¾

Domestic Rags (Old)

(F. o. b. Boston)

White No. 1—			
Repacked	3.80	@	—*
Miscellaneous	3.20	"	—*
White No. 2—			
Miscellaneous	2.65	"	—*
Twos and Blues, Repacked	2.20	"	—*
Old Blue Overalls	2.25	"	2.30
Thirds and Blues, Repacked	2.20	"	—*
Miscellaneous	1.80	"	—*
Black Stockings	3.50	"	4.00
Roofing Stock—			
No. 1	1.55	"	—*
No. 2	1.45	"	—*
No. 3	1.35	"	—*
No. 4	1.35	"	—*
No. 5, Quality A	1.85	"	—*
Quality B	1.80	"	—*
Quality C	.95	"	—*
Old Manila Rope	5.75	"	—*

* OPA Maximum Prices.

Foreign Rags

(F. o. b. Boston)

Canvas	(nominal)
Dark Cottons	(nominal)
Dutch Blues	(nominal)
New Checks and Blues	(nominal)
Old Fustians	(nominal)
Old Linsey Garments	(nominal)
New Silesias	(nominal)

CHICAGO

Waste Paper

(F. o. b. Chicago)

OPA Maximum Prices, Baled

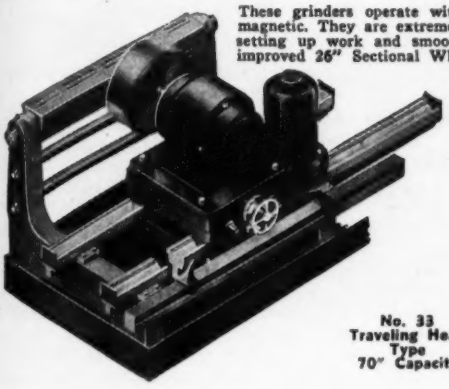
Shavings—			
No. 1 Hard White Envelope Cuts, one cut	3.37½	@	—
No. 1 Hard White Shavings, unruled	2.87½	"	—
No. 1 Soft White Shavings	2.50	"	—
No. 1 White Ledger	2.30	"	—
No. 1 Heavy Books & Magazines	1.92½	"	—
White Blank News	1.65	"	—
Mixed Kraft Env. & Bag Cuttings	2.75	"	—
No. 1 Assorted Old Kraft	1.75	"	—
Overissue News	1.10	"	—
No. 1 News	1.00	"	—
No. 1 Mixed Paper	.95	"	—
No. 1 Roofing Rags	1.35	"	—
No. 1 Roofing Bags	1.45	"	—

Two "Bridgeport" High-Efficiency Grinders

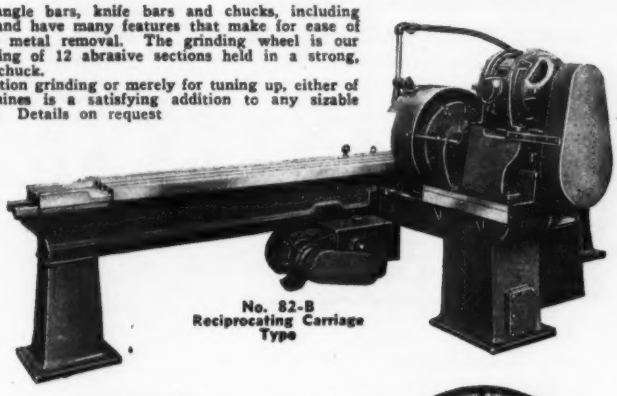
For Rapid, Accurate Grinding of PAPER, CHIPPER, RAG & VENEER KNIVES AND FOR MISCELLANEOUS GRINDING

These grinders operate with various angle bars, knife bars and chucks, including magnetic. They are extremely rugged and have many features that make for ease of setting up work and smooth, accurate metal removal. The grinding wheel is our improved 26" Sectional Wheel, consisting of 12 abrasive sections held in a strong, cast steel chuck.

For production grinding or merely for tuning up, either of these machines is a satisfying addition to any sizable paper mill. Details on request



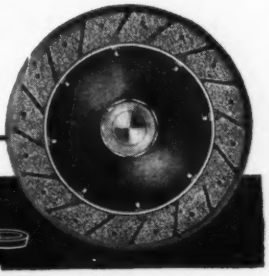
No. 33
Traveling Head
Type
70" Capacity



No. 82-B
Reciprocating Carriage
Type

THE BRIDGEPORT SAFETY EMERY WHEEL CO., INC. • BRIDGEPORT, CONN., U. S. A.

Bridgeport



GRINDERS • GRINDING WHEELS • BUFFING LATHES

SCREENS for PAPER and PULP MILLS

PERFORMANCE of your Centrifugals, Shakers and Drainers definitely improved by the use of precision screens built to your specifications. Let us "sit in" on your screening problems.

The Harrington & King PERFORATING Co.

5652 Fillmore St., Chicago 44, Ill.—114 Liberty St., New York 6, N. Y.

SERVING THE PAPER INDUSTRY

Right equipment — a better product at a lower cost. Look to Smith & Winchester's 118 years of leadership for the *right* equipment.

PAPER MAKING MACHINERY
PAPER BAG MACHINES
MODEL "E" UNDERCUT TRIMMER
JORDANS — FOURDRINIERS
WET AND CYLINDER MACHINES
ROTARY SPOT CUTTERS
REELS AND WINDERS
STUFF AND FAN PUMPS
ROLLS OF ALL KINDS

Bulletins furnished on request. We specialize on custom-built machinery to fit your particular needs.

The SMITH & WINCHESTER
Manufacturing Company
SOUTH WINDHAM, CONN.

Paper and Paper Stock Imports At New York and Other Ports

NEW YORK IMPORTS

WEEK ENDING APRIL 20, 1946

SUMMARY

Wall Paper	1 pcl., 1 pkg.
Paper Hangings	44 pkgs.
Filter Paper	21 cs.
Printing Paper	140 rolls
Drawing Paper	1 cs.
Wrapping Paper	886 rolls
Photo Paper	6 cs.
Baryta Coated Paper	100 rolls

WALL PAPER

Swedish Interamerican Co., Marawunga, Gothenburg, 1 pcl.

Meadows Wye & Co., Uruguay, Copenhagen, 1 pkg.

PAPER HANGINGS

W. H. S. Lloyd & Co., American Banker, London, 44 pkgs.

FILTER PAPER

E. H. Sargent & Co., Matawunga, Gothenburg, 13 cs.

Universal Trans-Continental Co., Ltd., American Banker, London, 8 cs.

PRINTING PAPER

Jay Madden Corp., Tunaholm, Hango, 140 rolls.

DRAWING PAPER

Universal Trans-Continental Co., Ltd., American Banker, London, 1 cs.

WRAPPING PAPER

Jay Madden Corp., Tunaholm, Hango, 886 rolls.

PHOTO PAPER

J. J. Gavin & Co., American Banker, London, 6 cs., (unsensitized).

BARYTA COATED PAPER

Intercontinental Forwarding, Inc., American Banker, London, 100 rolls.

RAGS, BAGGINGS, ETC.

E. J. Keller Co., Inc., Hoegh Silverstar, Bombay, 67 bls. old jute rags.

Darmstadt Scott & Courtney, by same, 135 bls. old jute rags.

Castle & Overton, Inc., by same, 275 bls. old jute rags.

W. J. Green Co., Inc., by same, 140 bls. old jute rags.

Padawer Co., by same, 364 bls. cotton waste.

Volkart Bros., by same, 200 bls. cotton waste.

Schimmel Trading Co., by same, 100 bls. cotton picker waste.

Camden Fibre Mills, by same, 100 bls. cotton waste.

New England Waste Co., by same, 250 bls. cotton waste.

1st National Bank of Boston, by same, 241 bls. cotton waste.

Brandwein Mazur Co., by same, 250 bls. cotton waste.

M. E. Schoen Co., by same, 345 bls. cotton waste.

(———), George M. Bibb, Rotterdam, 117 bls. old dark cottons.

Tradesmans National Bank Trust Co., American Banker, London, 129 bls. rags.

American Trading Co., Pres. Pierce, Hong Kong, 3 bls. rags.

Fifth Third Union Trust Co., Rio Colorado Buenos Aires, 85 lbs. cotton waste.

Americale Trading Co., Coffeeville Victory, Santos, 19 bls. wool sweater clips; 8 bls. worsted thread waste.

Commercial Factors Corp., by same, 497 bls. cotton linters.

Shipman Bros., by same, 393 bls. cotton linters.

American Cotton Products Co., by same, 68 bls. cotton linters.

Royal Manufacturing Co., by same, 29 bls. cotton fly waste.

Williamson Products Co., O. Henry, Santos, 514 bls. cotton waste.

Royal Manufacturing Co., by same, 107 bls. cotton waste.

Massasoit Manufacturing Corp., by same, 80 bls. old white cotton thread waste.

New England Waste Co., by same, 200 bls. cotton waste combers.

New England Waste Co., Rio Parana, Buenos Aires, 104 bls. cotton waste; 970 bls. cotton linters.

Kauders Steuber Co., by same, 787 bls. cotton linters.

Simmons Co., by same, 2370 bls. cotton linters.

OLD ROPE

P. J. Schweitzer Inc., City of Dundee, Calcutta, 65 bls. old hemp rope cuttings.

P. J. Schweitzer Inc., Exporter, Calcutta, 442 bls. old hemp rope cuttings.

D. M. Hicks, Inc., by same, 138 bls. old hemp rope cuttings.

(———), by same, 83 bls. old hemp rope cuttings.

P. J. Schweitzer Inc., City of Kimberly, Calcutta, 60 bls. old hemp rope cuttings.

(———), Francis Drake, Calcutta, 247 bls. old hemp rope cuttings.

GLUE STOCK, ETC.

J. Gorvers, Coffeyville Victory, Rio de Janiero, 106 bls. dry glue stock.

W. Steck Co., Molda, Buenos Aires, 175 bls. dry hide fleshings.

J. Gorvers, Cape Comfort, Barranquilla, 105 rolls hidecuttings.

Trans Atlantic Animal By Products Corp., Coffeyville Victory, (Rio Grande du Sol) 2222 bags boneglue.

Trans Atlantic Animal By Products Corp., Coffeyville Victory, Santos, 300 bags boneglue.

Wessel Duval & Co., O. Henry, Santos, 200 bags boneglue.

WOODPULP

Perkins Goodwin & Co., Matawunga, Gothenburg, 152 bls. unbleached sulphite.

Pulp Sales Corp., Tunaholm, Hango, 1004 bls. unbleached sulphate; 498 bls. bleached sulphite; 5850 bls. unbleached sulphite.

WOODPULP BOARDS

Jay Madden Corp., Tunaholm, Gothenburg, 680 bls.

Bulkley, Dunton Named Agent To Market Canadian Foil

Dominion Foils, Limited, of Canada has appointed Bulkley, Dunton & Company, Inc., New York, as United States sales agents for its aluminum and composition foils. The Canadian concern operates two mills, both located in the Province of Quebec, with an annual capacity in excess of 18,000,000 pounds of high grade foils. Both mills are integrated and are equipped to produce finished products from ingot stock.. This includes the embossing, coloring and printing of foils. All sales for the United States will be handled by the specialty division of the Bulkley, Dunton organization.

At present there is said to be a shortage of high grade foils in the United States, partly because European mills, which prior to the war supplied considerable quantities of fine quality foil, are now shipping only very limited tonnage to America, and partly because of the stepped-up demands for this material for packaging, decorating, insulating and other purposes. By the entrance of Dominion Foils into the United States market, consumers and converters in this country will have access to a considerably larger source of high grade aluminum and composition foils.

Book Paper Manufacturers Elect Olmsted Chairman

George Olmsted, Jr., president of S. D. Warren Company, was elected chairman of the Book Paper Manufacturers Association at the association's annual meeting April 17. Mr. Olmsted has been a member of BPMA's executive committee for a number of years, and more recently chairman of the OPA advisory committee for the book paper manufacturing industry.

P. H. Glatfelter, president of P. H. Glatfelter Company, was re-elected treasurer. Merrill R. Smeeth, executive secretary for the past year, was appointed managing director. Marguerite Kenny was elected secretary.

The retiring chairman, Clarence A. Clough, had been chairman of the association for some six years and thus had served during the war years. He had been faced with many difficult problems which confronted the industry in meeting demands of the war effort and of the essential civilian economy.